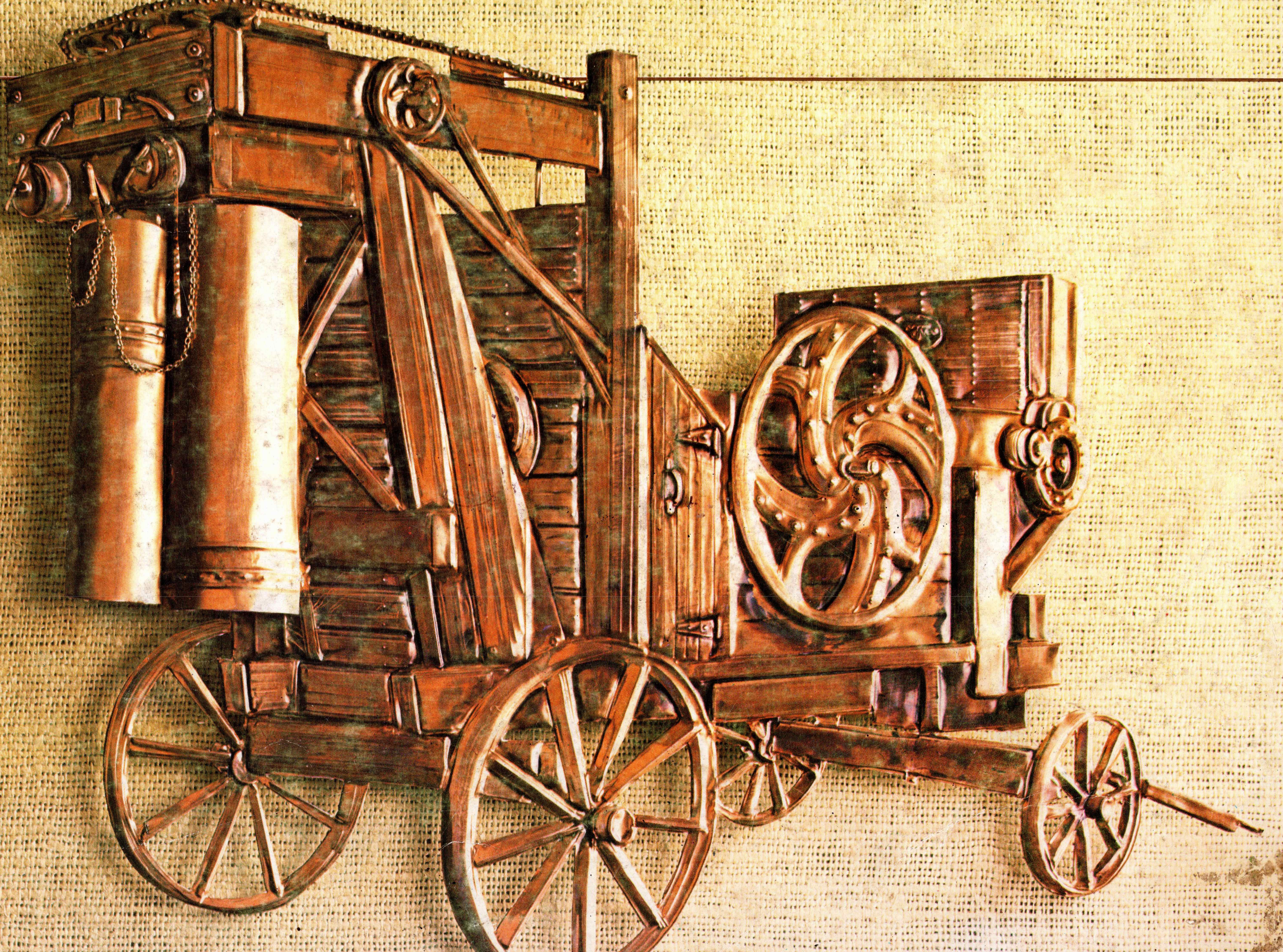
ANDREWS & BEAVEN LTD. 100 YEARS 1878/1978



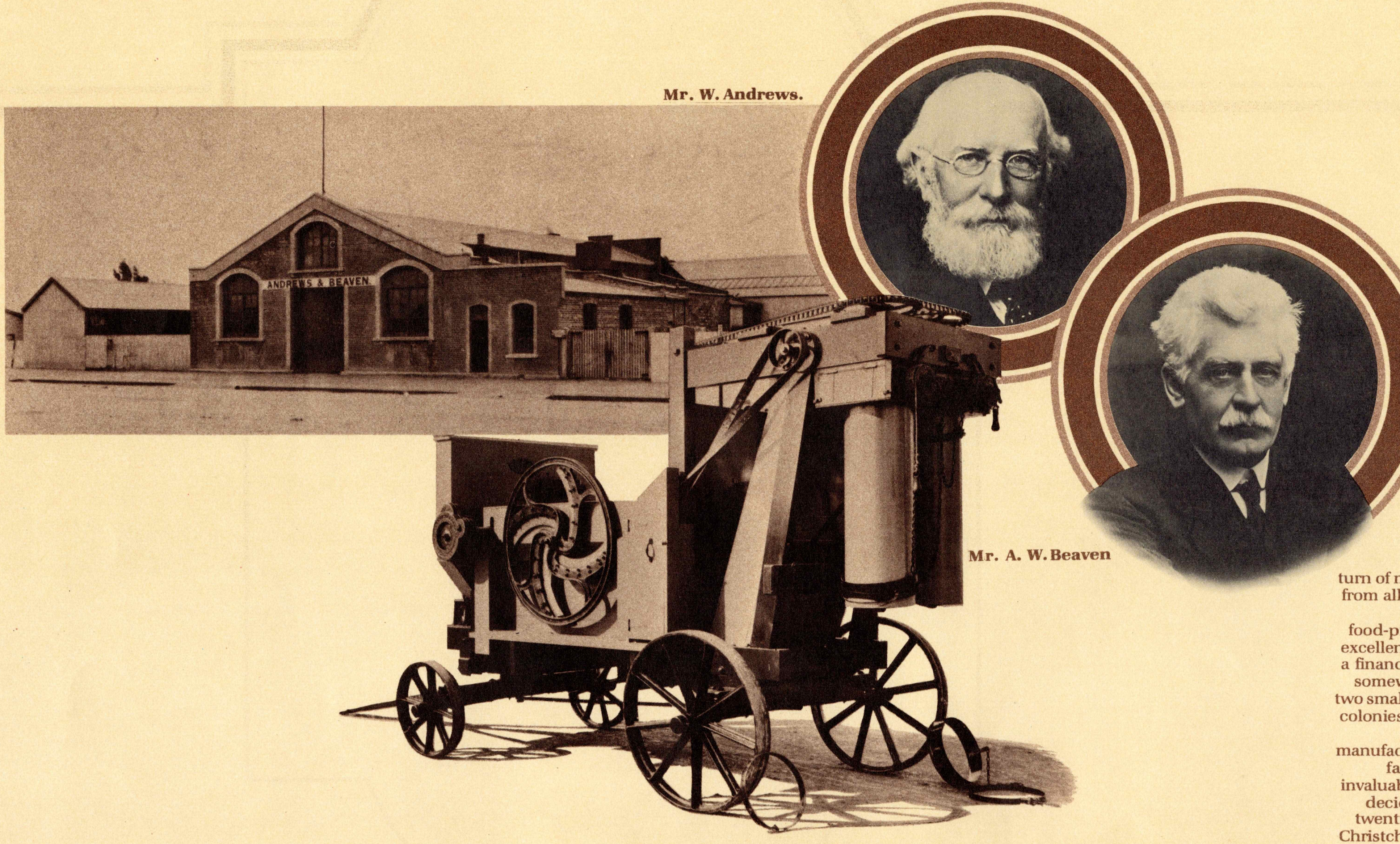
This book has been published to mark the Centennial of the Christchurch based company, Andrews and Beaven Limited, which was founded in 1878 by two English emigrants, A. W. Beaven and W. Andrews.

It will be recognised by many as a narrative of courage, enterprise, and bold management over a long period. It will also be recognised as a tribute to the integrity and disciplines of a large number of dedicated men and women.

The company has survived two world wars and a serious economic depression of the 1930's and now ranks as a major manufacturer and distributor of a diverse range of engineering and related products. Its progress and growth has been synonymous with the emergence of New Zealand to nationhood and in particular the development of Christchurch and Canterbury, as the following pages will reveal.

It has been my good fortune to have played a modest role during a period of intense activity and I am sure that the creative enterprise of the first one hundred years will continue during the second century of trading. In these future endeavours I wish the company well.

W. B. Barnes
June 13th 1978



Mr. W. Andrews.

Mr. A. W. Beaven

'Try to eliminate the pronoun "I". Remember, none of us would be here today if it were not for our team-mates.'

This was the advice Mr M. W. Beaven gave his staff when he bade it farewell on his retirement late in 1964. For a number of years, M.W.B., as he was affectionately known to all who followed him, steered Andrews & Beaven Ltd through most difficult times, as chairman and managing director of the firm that was an integral part of his life from the time of his return from the Great War in 1919. M.W.B.'s heritage came from Wiltshire and he was the keystone of a business which, today, has an issued capital of $6,156,108 and annual sales approaching $50 million, generated by a sales force operating from a nation-wide chain of branches and backed up by manufacturing facilities and service depots throughout New Zealand.

Today this team number 1600 men and women. One hundred years ago it comprised two men, Wiltshire-born William Andrews and Arthur Beaven. Andrews was an engineer of an original and inventive turn of mind. While still in his twenties manufacturers from all parts of Britain were paying him royalties on patented improvements to haymaking and food-preparing machinery. Possibly his engineering excellence excelled his business acumen. In any event, a financial reverse and the loss of his wife left him a somewhat disenchanted 40-year-old widower with two small children. He decided to make a new life in the colonies and he came to Christchurch, New Zealand.

Beaven served his time with a steam engine manufacturing firm in Devizes. Subsequently, when his father died, he ran the family farm and gained invaluable agricultural experience. When his mother decided to quit it, young Beaven, still in his early twenties, looked to pastures new. He, too, came to Christchurch and met Andrews. Although there were differences in age and circumstances, they became firm friends with common interests. The relationship blossomed, and in 1878 they entered into a formal partnership as manufacturing and importing engineers. So Andrews and Beaven was born, and so was the team which over the next century was to grow in size and stature to become one of the most formidable workforces in New Zealand's history.

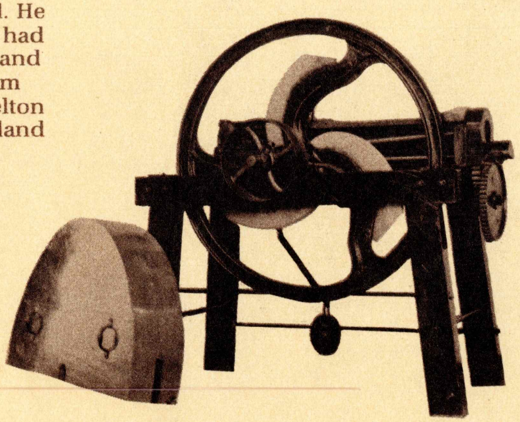
In actual fact, William Andrews was in business before Arthur Beaven arrived in Christchurch. In 1876 he had exhibited a portable self-bagging chaffcutter at the Christchurch Show. It was the first to appear in the world, and was the answer to many a farmer's prayer. The horse was the farmer's power source, and so long as it remained so, the chaffcutter was the fuel processor, just as the oil refinery is for the internal combustion engine today. The portable self-bagging chaffcutter was the foundation upon which the business stood when the partnership was formed in 1878.

William Andrews returned to England. The purpose of the long and arduous journey was to bring his family to the land of his adoption. One can fairly assume that what he had experienced during his short stay had convinced him that his future, and that of his family, lay in New Zealand and Canterbury in particular. There is no doubt that he also availed himself of the opportunity of renewing his association with English suppliers of farm machinery, for he had been in business on his own account in Melksham after serving his apprenticeship in engineering in Salisbury.

Arthur Beaven was 22 years of age when he left England to come to New Zealand. He was much younger than Andrews, and had served his apprenticeship with Brown and Mays, manufacturers of portable steam engines, in Devizes. He came to Lyttelton because he believed that the South Island offered more scope for agricultural engineering. It was almost certainly no coincidence that he was not long ashore before he met William Andrews, and the two decided to go into partnership. Apart from their farming and engineering backgrounds, the men had much in common. They were from the same part of Wiltshire, the Wylye Valley, where they had lived only 15 miles apart in the districts of Grovely and Heytesbury.

In those days it seems businesses were established quite simply. Perhaps the most significant document connected with the partnership, at least as far as William Andrews and Arthur Beaven were concerned, was a receipt given by the older man to his partner. Dated 17 February 1879, it stated: 'Received from A. W. Beaven the sum of £62.10.0 being his share of the value of my tools taken by the partnership, the amount being £125.'

It is not clear why this reconciliation was not completed sooner. However, the reason is probably to be found in the early records of the undertaking. The partners paid themselves at the rate of 1s 3d an hour, or 10s a day for a six-day week.



Zealandia 9" Chaffcutter No 1 model. This model usually hand powered was produced to fill a demand for a less expensive machine than the Canterbury. First produced 1895.

Apparently overtime and penal rates were unheard of. The early records make no reference to such payments. Taking into account the cost in the share of the value of the tools, (and in those days £62.10.0 was not an insubstantial sum), and the wages earned, one is drawn to the conclusion that young Beaven paid off Andrews over a period, because he did not have the ready cash at the time when they went into partnership.

The partners did not give themselves wage increases. The whole of the profits were retained in the business for many years. It was not until 1906 that Andrews and Beaven became a private company. It was then that the rewards for years of hard work and frugal lifestyles became apparent. Over those twenty-eight years that had elapsed since the partnership began, reserves had gradually accumulated, stocks had been built up, land had appreciated in value and plant had been bought. These were cogent reasons behind the decision to form a private company.

Ten thousand ordinary shares of £1 each, and forty debentures of £250 each were issued and divided equally between the two partners. The directors of the newly-formed company were, of course, William Andrews and Arthur Ward Beaven. It was agreed that the chairmanship would alternate annually, and that Andrews would be works manager and Beaven company secretary, each on a salary of £250 a year.

It is interesting to note that, until that time, the founders of the business not only worked longer hours but also, in some instances, paid themselves less than they paid their employees. By 1887 the staff had reached the record level of 18. Then the majority of the staff was paid a little less than the partners, but the blacksmith was on 11s 4d a day, while the partners were still on 10s a day. Also in that year an apprentice with the firm was paid 4d an hour, or 2s 8d a day. Progress, at least as far as wages were concerned, proceeded at a much more leisurely pace in those days. Mr M. W. Beaven, the eldest son of one of the founders, on learning of the apprenticeship rates pertaining 25 years before he began to serve his articles with the Christchurch engineering firm of P. & D. Duncan, pointed out with some acerbity that in 1912 a first-year apprentice received 5s 8d per day. 'I can vouch for this, as I started at P. & D. Duncan's for that,' said M. W. B. in a footnote to some comments relating to those early wage rates.

No doubt William Andrews and Arthur Beaven considered that they and their employees were amply rewarded for their labour. Although the wages book shows that staff turnover was relatively high, there were some 'old faithfuls' who remained with the firm all their working lives.

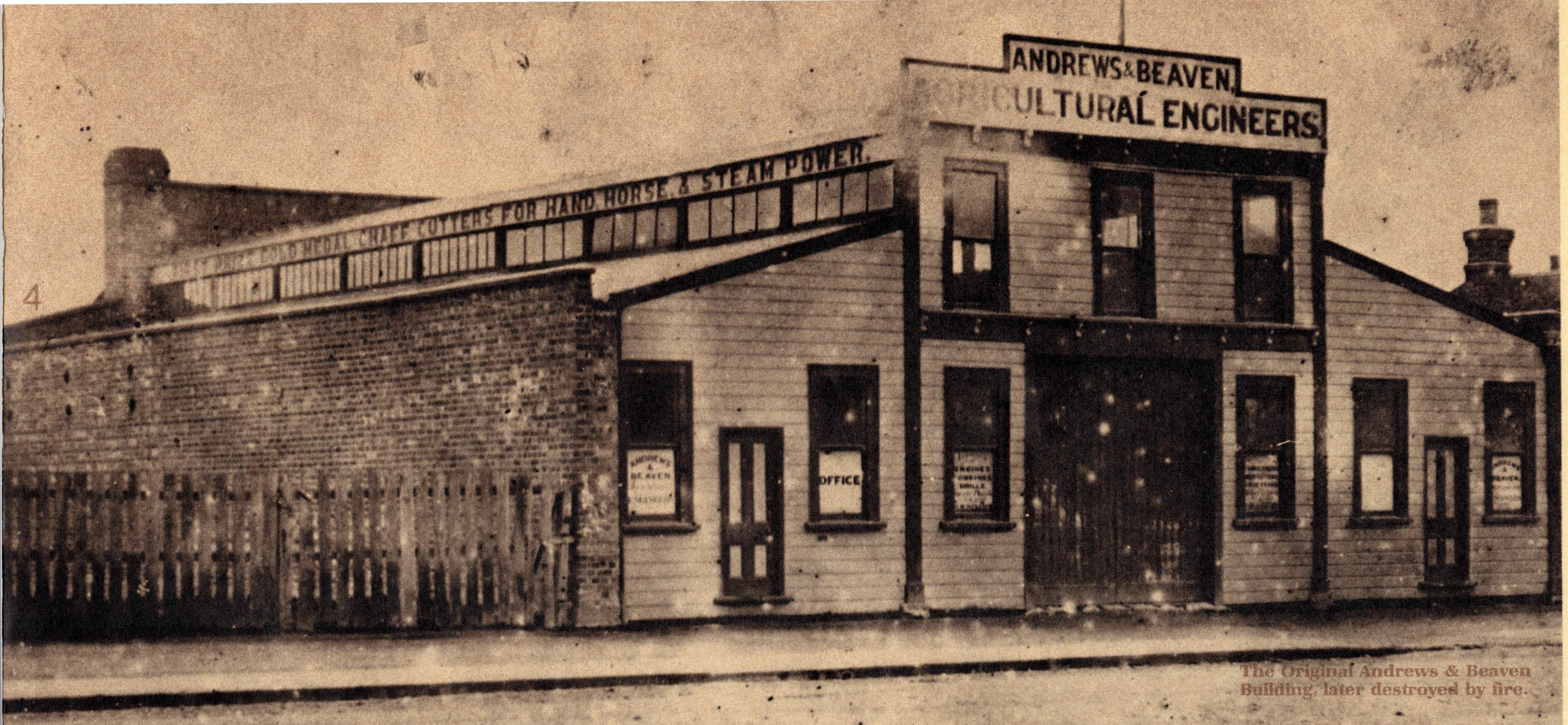
When Arthur Beaven joined William Andrews, the Christchurch railway station was in Madras Street, which was the main thoroughfare to the city, via High Street. In 1877 William Andrews had returned from England, and had started in business on a block of land in Moorhouse Avenue. At that time he and his family lived on the site in a cottage. Eventually the family settled in Dallington. One son who joined the business as a young man recalled that most nights he accompanied his father home on the last tram, which ran by the factory, to Dallington. That was about 10 p.m. He also recalled, with probably even greater clarity, that the next morning they were back at the Moorhouse Avenue premises by 7.30. It seems that the working hours of the founders and their families were rather more extended than those of the employees.

Be that as it may, such industry paid good dividends. William Andrews built the firm's reputation in New Zealand and Australia with his chaffcutters. Among the closely packed cottages, boarding houses, shops and the sprinkling of larger homes by Moorhouse Avenue, the partners lived and worked on their property on the section that faced the avenue. It was some 14 or 15 metres wide by about 40 metres in length. The chaffcutters were built in a lean-to and out in the open. The lean-to was a shed with two rooms in front, about 3 metres wide and about 12 metres long. The factory, if one could call it such, was humble, but those who ran it were ambitious. They realised almost from the beginning that, as well as Canterbury and the South Island, there was a vast and virtually untapped market right on their doorstep, thanks to the Union company which maintained excellent shipping services with Australia. It was not long before Arthur Beaven took passage for Australia, to attend the shows and demonstrate the company's wares.

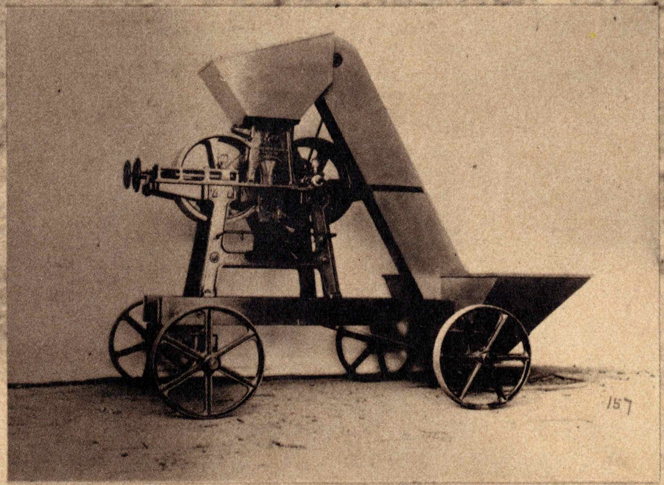
As was the case in New Zealand, the agricultural shows were the marketplaces of the agricultural engineering firms of those days. Farmers came from near and far, not only to show their stock and produce, and to socialise, but also to shrewdly appraise the machinery on display, in a constant quest to find ways and means of easing the burdensome task of developing their holdings, and ensuring economic survival. For the manufacturers there were prestigious awards to be won, and sales to be made.

But, as the first balance sheet of the company, produced in 1879, shows, the going was hard. Total assets amounted to £4,243, the main items being land valued at £800, tools £359 implements £2,106 and creditors £553 .

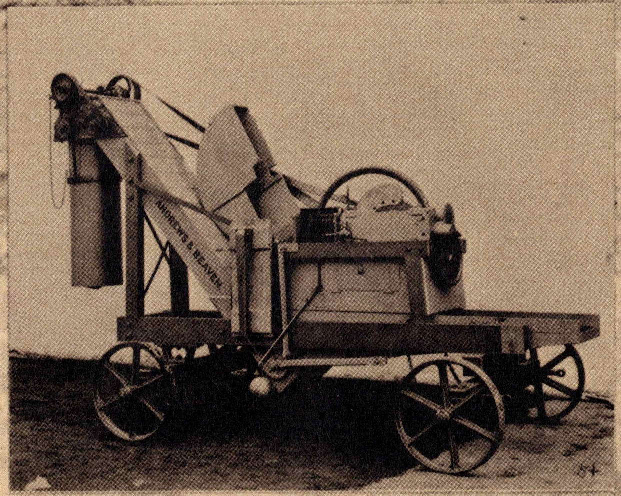
Sales for that first year amounted to £3,003, the Andrews and Beaven manufactured articles comprising five straw elevators, seven chaffcutters and 13 mashing machines, valued at £450.10.7.



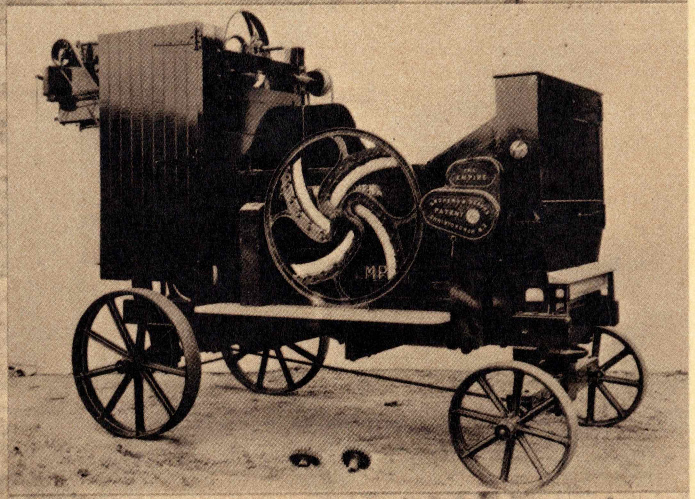
The Original Andrews & Beaven Building, later destroyed by fire.



A4 Crusher with Hopper and Elevator—portable For crushing mainly oats.



Canterbury No. 4 Chaffcutter. Very early model, note single bagger Duplex baggers were introduced in 1885.



Empire Chaffcutter 12" or 14" mouth. Built to supply Contractors rather than farmers. First produced 1900.

The return from customers' work and repairs amounted to £262.19.0. The strong association that had been developed with English manufacturers was reflected in the import business that had been nurtured. Imports comprised a five-horsepower traction engine and combine, two two-horsepower steam engines, three drills and an eight-horsepower traction engine, the return on which amounted to £2,289.13.3. As the partners had little capital, credit facilities were apparently rather easier to obtain than they are these days.

A year later, 1880, more land was bought to give the property a frontage of about 26 metres on Moorhouse Avenue. The original lean-to was developed into a building about 18 metres by 16 metres. The cost of the work was £400. There was a small extension made on the western frontage of the property the following year, and the blacksmith's shop was built at the back of the property. A 10in lathe was also purchased.

The following year the partners bought a radial drill. The following year, 1883, two more drills were bought. This build-up of equipment boosted the manufacturing capacity of Andrews and Beaven, and in 1884 the firm produced the first double-bagging chaffcutters. It was in that year that Arthur Beaven made his first sales visit to Australia.

William Andrews and Arthur Beaven were expanding their domestic market, and had reached the stage where they considered the time was ripe to look further afield. Australia was relatively close to home, and it was full of potential. The partners made their move and, as events quickly showed, the venture was greeted enthusiastically by the Australian farming community. It was not long before A & B chaffcutters were accepted as an integral part of the rural economies of the Australian colonies.

At one stage nearly every chaffcutter in Tasmania bore the A & B label. So did the majority of those used in New South Wales and Queensland. The Victorian market virtually dried up when the State Government imposed a 33 per cent duty, but the pickings were good elsewhere. Sales were made to Western Australia, and some chaffcutters were exported to the United Kingdom, Scotland in particular, and to South America.

The sales approach in Australia was the same as that used so successfully at home. The machines, handsomely finished in two tones of green paint, and with grey bagging spouts, were exhibited at agricultural shows, and more often than not Arthur Beaven was on hand to demonstrate them. Just as the firm was winning gold medals at home, so it did in Australia. In 1889 A & B had its chaffcutters on display at the Melbourne Exhibition. Arthur Beaven was on hand to handle sales. This venture was extremely successful, and he remained in Australia after the exhibition for eleven months to commission the machines for which he had obtained orders.

It has been estimated that a third of the firm's chaffcutter production was sold in Australia. That represented considerable export volume, because when production of the regular machines ceased in 1926, A & B had manufactured 4,500 chaffcutters.

The advent of the farm tractor, and particularly the pneumatic-tyred version which A & B introduced to New Zealand, heralded the demise of the chaffcutter. The use of horses for farm work came to an end, and so farmers no longer needed chaffcutters. Chaff that was needed for the few farm hacks and ponies and for feeding out to sheep was cut by contractors who, of course, continued to seek work for their machines.

Some years later the chaffcutter re-emerged in entirely revised form. An agricultural contractor from Windsor in Central Otago, was operating in an area of rolling downlands, and his work involved travelling considerable distances. He was Mr Harry Ellery, and he saw the solution to his problem was a chaffcutter unit mounted on a light truck chassis and fitted with a powerful engine. His idea was to use the truck for transport, and its engine to drive the chaffcutter. Mr Ellery asked A & B to design such a unit. A Ford V8 chassis was chosen, along with the Commonwealth B cutter with its balanced riddles and capability of producing a high output of cut chaff.

The combination was an excellent one. It had a good turn of speed on the road, and was light enough to traverse boggy fields that caused problems with heavy traction engines. The unit could pull into a stack and start cutting immediately. There was no trouble in lining up the drive belt because that was permanently set. There were no worries about fires caused by coal sparks from a traction engine. There was also the appeal of the sheer convenience. The whole crew arrived in the truck cab, and went home the same way at the completion of the day's work.

Harry Ellery had a winner, and in next to no time he was being called upon by farmers from well beyond his district. His machine went into service in 1935, and before World War II twenty of these V8-engined cutter outfits were working all over the South Island. Some contractors even bought a second machine to cope with the work offering. Production ceased during the war, but several more were constructed afterwards, and the sale of them actually ceased in 1949.

When William Andrews unveiled his portable self-bagging chaffcutter, and won first prize with it at the Christchurch Show in 1876, even he with all his vision could not have foreseen that he had started something that was not only going to form the basis of one of New Zealand's bigger national companies, but also make a tremendous contribution to the development of primary industry and export trade over the following seventy years.

The story of the chaffcutter tends to overshadow the other activities of the company, particularly in those early days, but the early records show that William Andrews and Arthur Beaven were awake to the hazards of putting all their eggs in one basket. It is probably true to say that Andrews saw the basis of powered farming in his prize-winning chaffcutter. But he knew that the horse was going to be generally accepted for years as the farmer's power source, and so it was not surprising that he and Arthur Beaven should begin to explore to find ways and means of harnessing the energy of the horse to exploit it more efficiently.

From the outset the partners betrayed their preoccupation with power-driven machinery. They imported portable steam engines and traction engines. The latter were used for ploughing, and this explains why twenty heavy ploughs were mentioned in that first balance sheet of 1879.

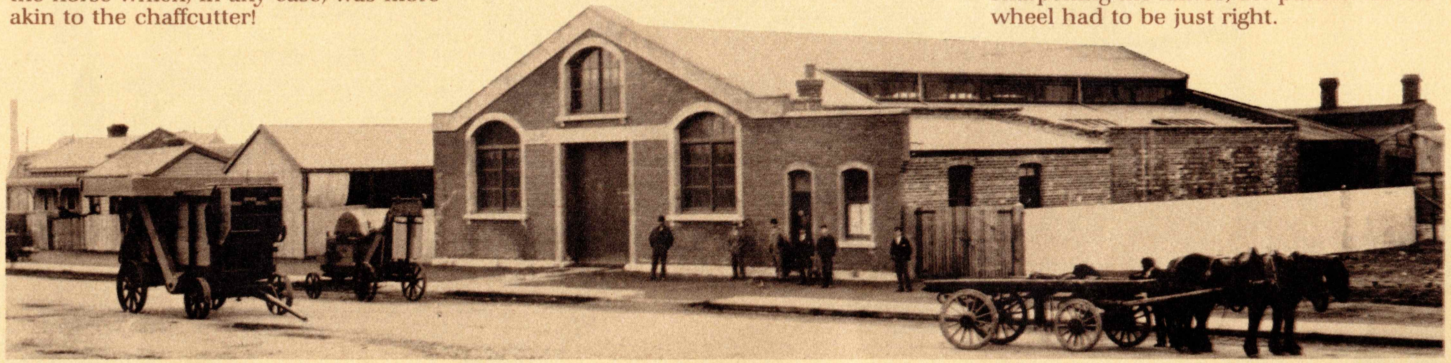
These ploughs were bad stock that had been ordered in a flush of enthusiasm that dissipated as their drawbacks became known. It was a hard lesson for the partners, but they accepted it with good grace, and they left it to other New Zealand agricultural engineers to manufacture ploughs. In any event, horses were taking over from the steam ploughing sets, and henceforth A & B directed its attention to the horse which, in any case, was more akin to the chaffcutter!

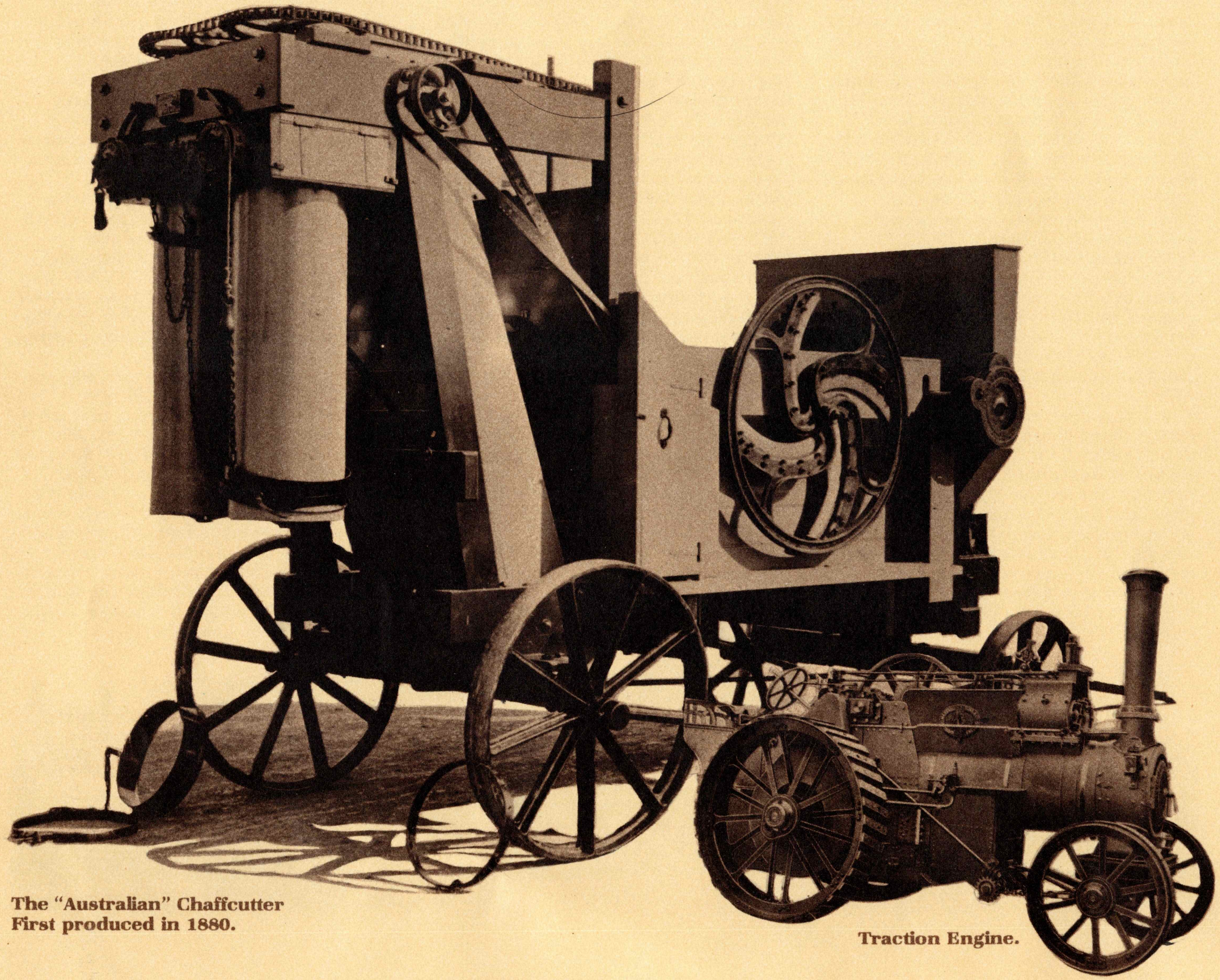
The partners built their first horse gears in 1881, and thus horses came to be used to cut their own chaff. They adopted the English practice of having the horse harnessed to a pole which, in turn, was attached to suitable cog gearing. As the horse was driven around in a circle, the gears were driven and transmitted the horse's power, suitably geared, to drive the machine. By careful experiment, and refining the fundamental design, the partners developed efficient horse gears. Small contractors and farmers who owned the smaller chaffcutters were the main customers. They made good clean chaff. As the knives became more blunt the horses became slower. When the horses were given a rest, the farmer or contractor took the opportunity to sharpen the knives on the chaffcutter, and the cycle started again.

To some degree the development of the horse gear helped William Andrews to overcome one of the shortcomings of the chaffcutter. As has already been mentioned, contractors and farmers operating the smaller horse-powered machines found that, generally speaking, the knives became blunt about the same time as the horse became tired. Then the opportunity was taken to sharpen the knives when the horse rested. While this fortuitous system worked admirably for the small operator, contractors operating the bigger machines, which were often powered by steam-driven traction engines, were faced with having to stop work to sharpen the knives. Stand-down time was money lost to the contractor. Moreover, it was a back-breaking job hand filing the knives, and with the bigger machines, the throughput of which was largely determined by man's capacity to feed them, the knives required sharpening regularly at intervals of about 50 bags.

A meticulous engineer, William Andrews applied himself to the task of devising a sharpening device that was simple to use and quick and efficient. Eventually he designed what he called the knife wheel. The knives, which were fitted with malleable back, were bolted easily and quickly to the knife wheel, and then they were ground sharp by a small emery wheel which was driven by a rope drive from the chaffcutter, while the cutter was working on the next batch of bags.

The thorough manner in which William Andrews undertook his work is well illustrated in the design and construction of his knife wheel. When patterns are made to produce iron castings, allowance has to be made to take into account contractions. The larger the casting the greater the contraction. As the knife wheel was of cast iron, and had a diameter of about 48 inches, and was driven at between 400 and 600 revolutions a minute while under the heavy strain imposed in sharpening the knives, the pattern for the wheel had to be just right.





The "Australian" Chaffcutter
First produced in 1880.

Traction Engine.

Mr Andrews asked for the first wheel to be cast one afternoon. The following morning he called at the foundry and, using a heavy hammer, he set about knocking the spokes out of the newly cast wheel. Having knocked out the spokes, he fitted them back in place. On his instructions yet another wheel was cast, and the procedure was repeated again the next morning. But this time instead of knocking out the spokes, Mr Andrews knocked out pieces of the wheel's rim. After he had replaced the pieces he professed himself satisfied, and gave the go-ahead for the foundry to cast knife wheels.

What William Andrews had been doing was making sure that his allowances for contractions in the casting were correct, and also that there was no design fault that might cause the wheel to disintegrate while it was in use. The thorough check paid off. The knife wheel was patented and several hundred examples were produced and sold.

In the early days of Christchurch, Banks Peninsula was covered in virgin bush, and the only way in which settlers could maintain an association with the growing town was by sea. There were many sheltered bays, and small sailing craft were used to bring supplies to the settlers on the peninsula from Lyttelton and Christchurch. These small vessels were an essential part of the commerce of Christchurch in particular, and Canterbury in general in the 80s, for they were the link between the port and the town, and were the only means of transport that could be used before the Christchurch-Lyttelton railway tunnel was drilled.

The peninsula with its bush was the most readily available source of timber. The settlers pit sawed it on the spot and used it to build their homes, and also jetties. Then they set up small sawmills and sent the timber to Christchurch, firstly by the small sailing vessels, and later also by the tram line which ran to the town from Little River. Many of the commercial and industrial buildings, as well as the houses of early Christchurch, were built of the timber from the peninsula.

These peninsula settlers were men of the land, and as they cleared it, they sowed it down in grass. Cocksfoot was their preference. So there arose a demand for cocksfoot seed, and the newly cleared land produced good seed. However, this seed needed some form of cleaning, because it was hand cut by sickles and threshed with flails on sheets spread on threshing floors specially levelled for the purpose. The seed was winnowed by the wind, and some was lost. So the settlers began making small winnowing machines. But there were parts they could not make themselves, and some farmers wished to buy rather than make their winnowing machines. Thus there was business available for an agricultural equipment manufacturer and importer. William Andrews and Arthur Beaven were quick off the mark. They had the knowledge to undertake this class of work and, what is more, they stocked many of the parts that the peninsula farmers needed. A strong business friendship developed as the partners and the farmers shared their experience to improve their machines constantly.

In those early days, Drummond pattern winnowing machines were imported from Scotland. They were small, but they were ideally suited to the needs of the farmers. By the mid-eighties these imported cleaners were to be found on the farms of many well-known peninsula families—the Robinsons of Pigeon Bay, the Gardiners of Purau and the Thackers of Okains Bay, to name but a few.

By 1888 the partners had started to make small seed cleaners of their own design. These machines made use of blowing fans and sieves with a considerable fall. The sieves revolved in a horizontal plane. To separate hair grass the sieves were arranged in steps. These sieves were of fine mesh, and they were moved by a crank of considerable throw. Seed placed on the top step was thrown down from step to step until it reached the bottom. As the seed progressed, the hair grass was removed, for it went through the fine wire mesh sieves point first.

The demand for seed by the farmers who were breaking in land opened up yet another commercial avenue—the merchant. Seed merchants imported seed cleaning machines, and they wore a path to the Moorhouse Avenue premises seeking the partners' expertise to help erect and repair the imported machines.

The next step was logical. The first orders for larger commercial seed cleaning plants came from the merchants in 1889. The merchants specified machines which embodied the principles involved in the imported machines, and A & B had no trouble in meeting the orders. The imported machines were in a state of imbalance. Each sieve or riddle was in a unit which was attached to the framework of the building housing it. Thus, when the machine was in operation the building shook from end to end and disturbed, if not unnerved, all the occupants working in it! When large riddles with a long stroke were employed, a post the size of a telegraph pole was placed in the ground, and its top end was connected to the frame of the building. This technique virtually eliminated vibration.

While the proven cleaning methods were incorporated in the first seed cleaning machines produced by A & B, the partners went to considerable pains to prevent them vibrating. The riddle cases were arranged in pairs and, as far as possible, counter-balanced.

Actually in designing a cleaner with a balanced type of motion, A & B gave the seed a high rate of motion, and the machine a longer life. Jump sieves, which soon showed their advantage over the original steps, were employed.

Many machines of this type were constructed, and the first hair and goose grass jump machines were supplied to the New Zealand Farmers' Co-op in Christchurch, and the New Zealand Loan and Mercantile Company in Invercargill in 1890.

The final design was the result of painstaking experimentation. Today's jump machine has only two long riddle cases with three sieves in each case, all following each other. The only modifications to this highly efficient cleaner have been the fitting of ball bearings—which eliminated the old problem of oil damage to the seeds—and the use of a steel frame.

So, by 1890, when the partnership had been in existence just twelve years, A & B were manufacturing chaffcutters, horse gears and seed cleaners, to say nothing of washing machines, elevators and patterns. The firm was also installing and repairing equipment, importing equipment, and servicing it. The business was, in fact, quite substantial, yet a quick calculation puts the weekly total wages cheque at £34.16.0. The permanent staff, including the company's founders, comprised twelve men, eight of whom were on 10s a day, and the other four on 8s a day. These details are contained in a book or diary that was kept by Arthur Beaven. If the firm employed any boys, he did not mention them. However, four day men, as they were called, did work for about two months over December and January. They were paid between 7s and 10s a day. Arthur Beaven noted that the staff worked a 48-hour week, with the exception of his partner, William Andrews, and himself, who worked 50 hours.

In those early days the chaffcutters were the main units to build turnover, and in the first nine years 384 were manufactured. There are no records to indicate whether they were large or small, but it can be assumed that by 1887, there was a good export business with Australia, for Arthur Beaven had paid his first business visit there in 1884.

Following the success of the Melbourne Exhibition of 1889, Dunedin decided to do likewise, and its exhibition was held in 1889 and 1890. Andrews and Beaven were there with an exhibit of their own manufacture. However, the amount of business done by the firm in Dunedin paled into insignificance when compared with that which had been done in Melbourne. From the visitors' viewpoint, however, the Dunedin exhibition was an outstanding success. They were able to compare the relative merits of gas, piped in from the gas works, and electricity, which was generated on the spot as an exhibit. But of even greater interest to William Andrews and Arthur Beaven were the several different makes of gas engines that were on display. For them the message was clear. Steam and horse power were on the way out. Although there was to be life in these two traditional sources of energy for some time to come the partners were quick to read the message, as subsequent events showed.

In 1906 the Christchurch Exhibition was held in North Hagley Park. It was a great occasion. The Christchurch Tramways Board introduced electric trams for the opening. A special line was laid in Kilmore Street to the main entrance to the exhibition, and a bridge was built over the Avon. At the exhibition itself electricity was more in evidence, but it was generated on the spot, the generators being driven by special steam engines which had been built in Christchurch. Motor cars made their first appearance at this exhibition, some of them four-cylinder models making their New Zealand debut.

It was said at the time that the machinery hall at the Christchurch Exhibition was more imposing than any previous machinery display that had been held in New Zealand. Contributing to this array of locally-manufactured and imported machines was a comprehensive range of equipment from A & B. Amid the chaffcutters, seed cleaners and other manufactures of the firm were some imported items, and they included examples of the Blackstone oil engine.

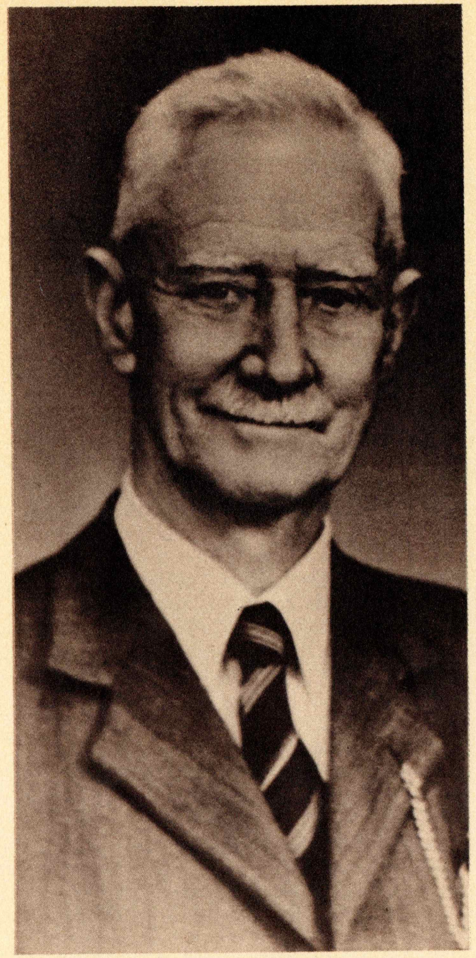
Although the Blackstone engines were first displayed at this exhibition, the first engine was imported by A & B in 1903. The decision to handle the Blackstone agency in New Zealand was not taken lightly. The partners had assiduously collected information about the engines which had appeared about the world, and they had imported examples of those with promise, to test for themselves their power outputs, reliability and suitability for New Zealand operating conditions. Continuous lamps of the Bunsen burner type with ignition tubes proved satisfactory in gas engines, but the partners rejected them for outdoor use. Similarly, petrol engines with electric ignition were discarded, on the grounds that they were still unreliable and not completely understood. On the other hand, some well designed kerosene engines were appearing, and not only were some of these less complicated than the petrol and gas driven alternatives, but also they were proving themselves in the marketplace. This was the basis on which the Blackstone oil engine was chosen, and the partners' choice proved to be a good one. The range was wide, there being ten different models, so buyers could select an engine with a power output tailored to their requirements.

For A & B, the Blackstone oil engine was another success story. Farmers from all over New Zealand found them reliable and sufficiently powerful to drive their threshing and chaffcutting plants.

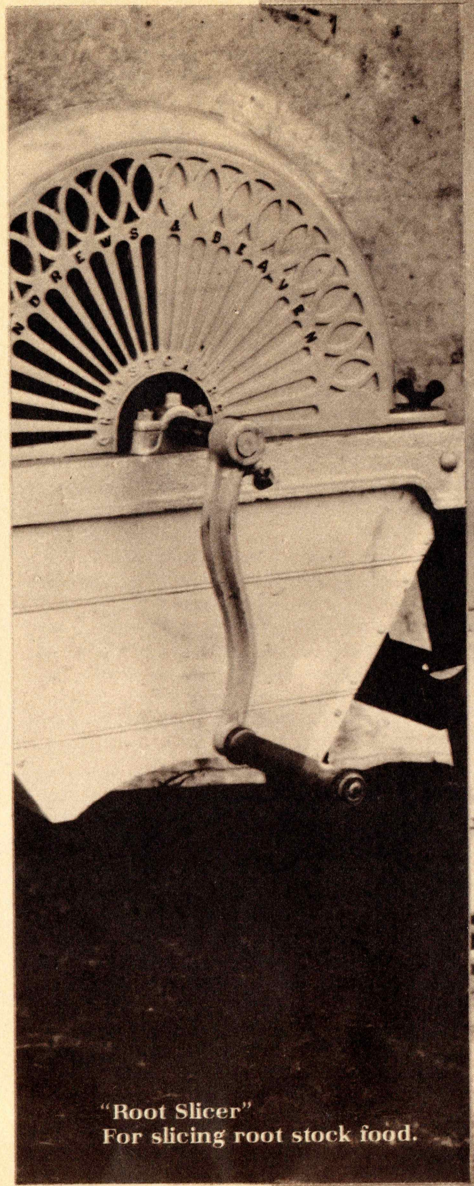
Between 1903 and 1920 A & B sold 1020 Blackstone engines, the demand increasing in the later years as farmers began to turn to machine shearing and milking. However, by 1920, New Zealand was becoming fairly well reticulated with electricity, and the versatile tractor with its power take-off was moving into the farming picture. Just as had been the case with the horse gear, progress killed the oil engine.

All the same, it is interesting to note that, during the first ten years of their life in New Zealand, the North Island took 80 per cent of the engines, and A & B's Palmerston North agents, Manson and Barr, sold 280 units. The partners chose their agents with extreme care, and this policy paid good dividends. Numbered among the Blackstone agents were Dalgety and Company, New Zealand Loan and Mercantile, Levin and Company, Newton King, Farmers' Auctioneering, South Canterbury Farmers' and J. E. Watson and Company.

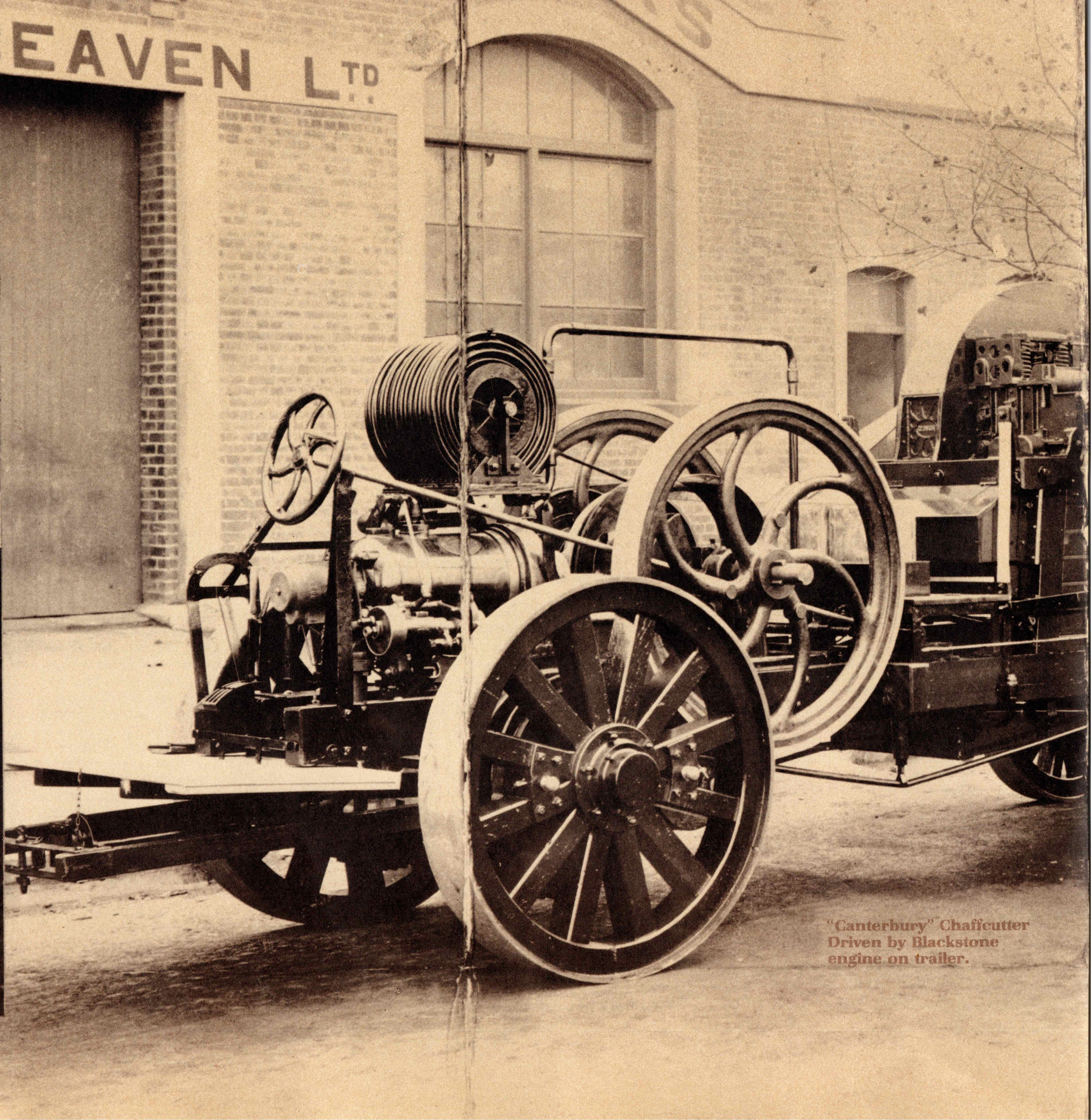
Apart from the revenue A & B derived from the Blackstone franchise, the company maintained the goodwill it had built up with these agents and their like, which had been gained initially when they were appointed agents for the firm's chaffcutters and threshers. In fact the judicious choice of agents who were given good, reliable machinery to sell, backed up with stocks of spare parts and servicing expertise when it was needed, established a national network with a complete coverage of New Zealand and Australia, that laid a solid foundation for the highly efficient Spare Parts Division A & B was to establish subsequently.



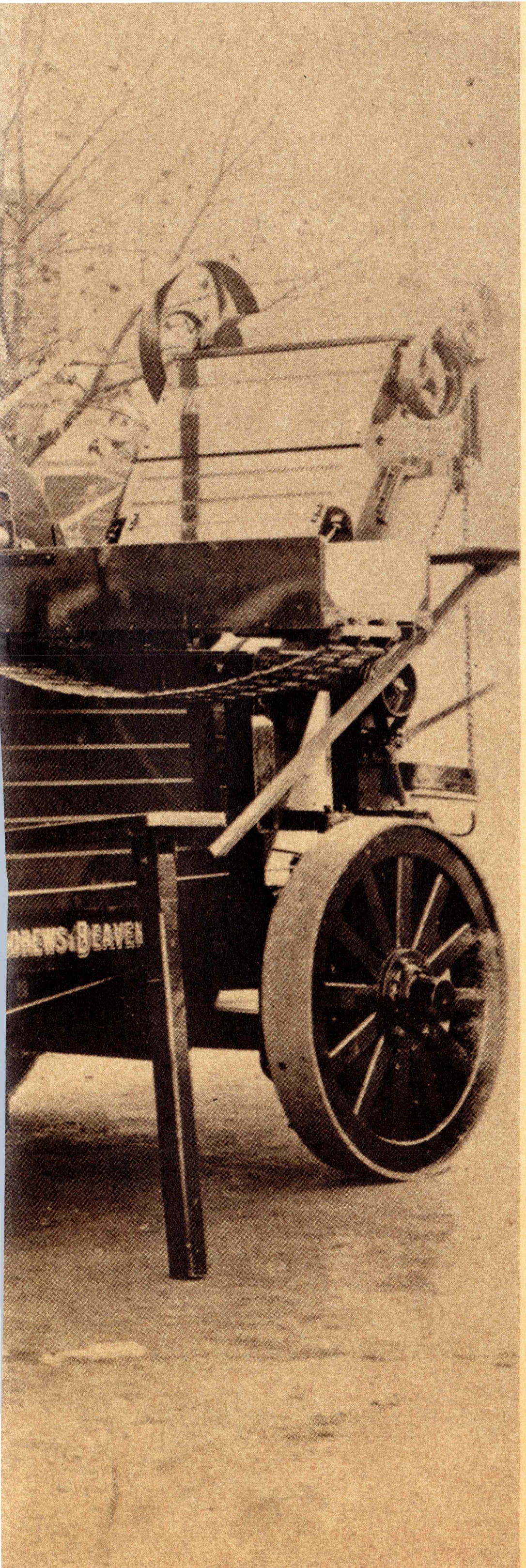
F. O. Andrews.
Director 1921-1936
A principal designer of our early machinery.



"Root Slicer"
For slicing root stock food.



"Canterbury" Chaffcutter
Driven by Blackstone engine on trailer.



In 1905 Mr F. O. Andrews, a son of William, joined the firm, and he played a prominent part in introducing the Blackstone range. In 1906, the year of the Christchurch Exhibition, sales amounted to £8220. In 1913, the year before the outbreak of World War I, which also contributed to the decline of this profitable franchise, the sales had a value of £10,947.

But despite the expansion and consolidation of the partners' enterprise about the turn of the century, there were setbacks that had to be overcome. In 1895 a disastrous fire destroyed the Moorhouse Avenue premises. Fortunately, most of the equipment it contained was salvaged, and Christchurch firms were not hesitant in helping friends in need. They supplied stock and helped with work so that orders could be completed.

While a new brick building covering the same area was constructed on the site, the loyal staff carried on with their work in the open, and in extremely difficult and often unpleasant conditions. These men included Ruben Raddon, who was to be foreman of the carpenters' shop for so long. He had joined the company in 1884, and was to remain with it for more than 40 years. Also there were Martin Elvines, Charlie Kent and Bob Dickie, who had joined in 1885 and also remained a similar length of time.

The year after the fire A & B made its first loss because of the lack of facilities during the construction of the new brick building. Nevertheless, this financial setback did not deter the partners. In 1898 they extended their property by buying the section at the corner of Madras Street and Moorhouse Avenue. Then they built a new carpenters' shop by the blacksmiths' shop, and along the rear of the new section.

In retrospect, the Christchurch Exhibition could not have come at a better time for A & B. The partners had sufficient time to recover from the troubles caused by the fire a decade earlier, and to take advantage of the facilities available to them in the new carpenters' shop. From their well-appointed office, complete with telephone, at the exhibition, they took a large number of orders. It was a just return in view of the troublous times they had encountered.

It was at this time that it was decided that William Andrews should make a visit to England, but before he went, he was involved in the business of setting up the firm as a private company. When next the financial structure of the enterprise was to be changed, William Andrews had retired. That was in 1921, and consequent upon his retirement, the company was reorganised, and the capital was increased by the issue of 10,000 £1 ordinary shares to take the total to 20,000, and the issue of 5000 6 per cent debentures to make the total 15,000. A distribution of 2000 of these debentures was made to shareholders, and 3000 went to Weston Ward and Lascelles, the trustees for the Bonus and Accident Fund, which had been established by the partners in 1899. This fund was based on profits for the year, and credited to many of the old employees to draw upon when they retired.

At the same time, the company's Articles of Association were altered, and Arthur Beaven became managing director. On the board with him were the co-founder's sons, Messrs F. O. and S. W. Andrews. By that time, however, the company was well balanced from the family viewpoint. In 1919, on their return from World War I, Messrs M. W. and E. T. Beaven, the sons of Arthur, had joined the company. In 1922, M.W.B., as he came to be affectionately known, joined the board.

But much was to happen to the company and, indeed, the world between the time of William Andrews' overseas trip and his retirement. In 1909, A & B bought Pye Lane. It gave the company an accessway to the rear of the Moorhouse Avenue-Madras Street property. These pre-World War I years were highly profitable, and in 1912 a section was bought in Caversham Street for £750. A two-storeyed building was built of brick. It contained a show room, a seed cleaning department and upstairs offices. Situated on the corner of the avenue and Madras Street, it was opened in 1913 and cost £2900. When it was opened, it was announced that the Bonus and Accident Fund had grown well into four figures, and so it had been decided to allow interest at bank rate on this account. Deposit certificates bearing interest at the rate of 6 per cent were given to five of the leading hands, as their shares of the Bonus and Accident account.

Then came the war. It has often been said that the war years were the most prosperous in the company's history, taking into account the capital employed. Production per man was high. But the conditions under which the men worked were atrocious. The hours were long, overtime was a matter of course. Production went ahead under the indifferent lighting of gas burners, and on dirt floors. To clean up, the men shared a bucket of hot water before they stopped for meal breaks, or dragged themselves home at the end of the long working days.

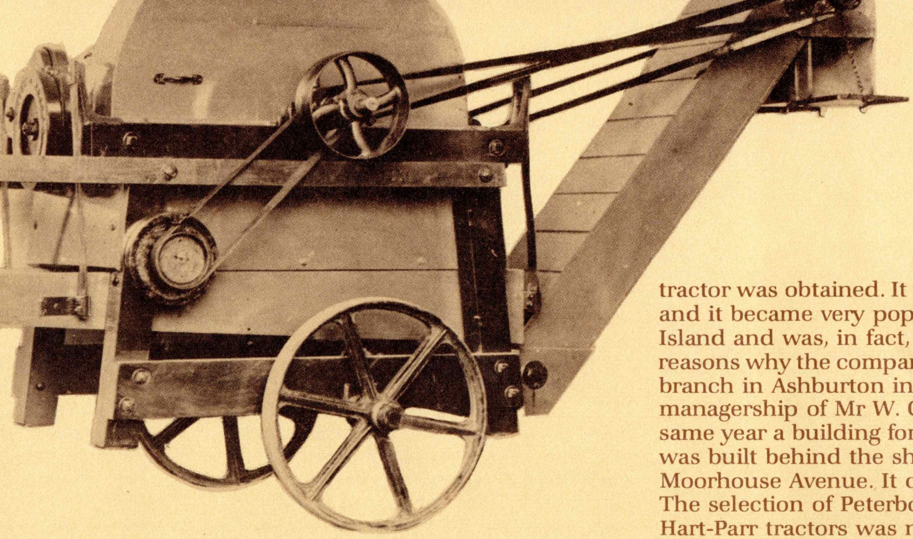
Although the staff of the company had achieved the record high of 56 in 1911, the number dwindled to 34, of whom five were apprentices, in 1918. Some men left to enlist or seek other employment. Four men died for their country, and another was wounded.

Although the following figures cannot be taken as 100 per cent accurate, simply because production figures did not tally with the time intervals, it would be fair to say that over the war years the company produced on average annually, about 170 chaffcutters, 20 saw benches, nine corn crushers, five large threshers and 26 small ones, 91 small seed cleaning plants and 15 large ones, 14 patent knife wheels, and a similar number of knife wheel grinders. Blackstone stopped making engines in 1916, but throughout the war A & B sold an average of 56 units a year, and manufactured the accessories, such as sledges, mufflers, fuel tanks and friction clutches, to complete customers' orders.

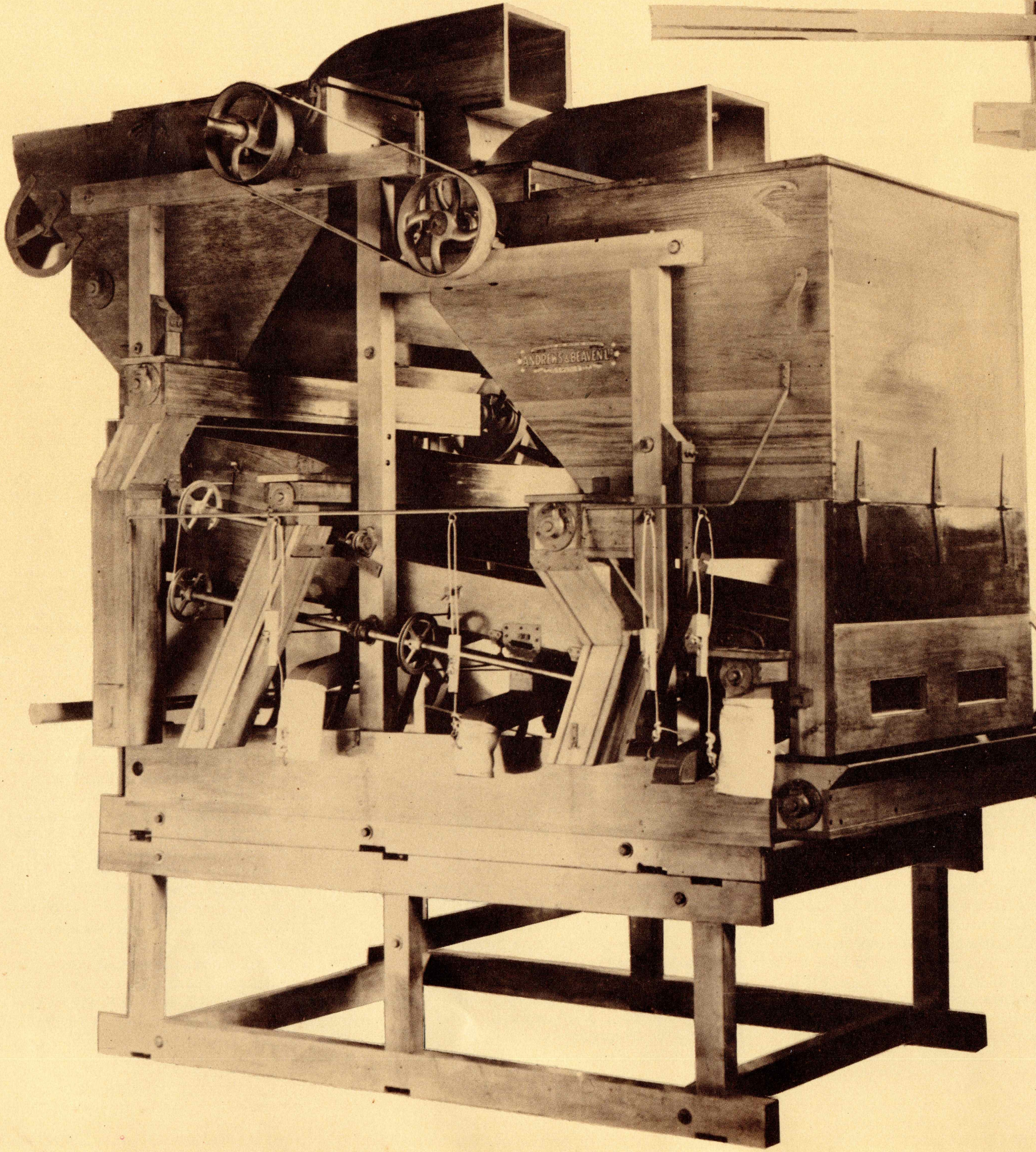
Under any conditions such an output of machinery annually was impressive. When the fact that the firm also had to produce stocks of replacement parts, and also often install and commission the machinery, the work output per man was prodigious.

Though imports fell away, and there were numerous occasions when the staff was called upon to produce a substitute for the no-longer imported machine, A & B maintained its turnover during World War I at about $25,000 a year. At the same time, the war brought with it the threat of a sharp downturn in the company's post-war profitability. Between 1914 and 1918, the farm tractor was introduced in the United States and Britain. At the end of the war the first examples were already reaching New Zealand's shores, and it was evident to all in the agricultural machinery business that the tractor had come to stay.

Thus, in the matter of a few short years, the basis of the A & B business was seriously eroded. As the farmer would be dependent no longer upon the horse, the chaffcutter and all the ancillary equipment that went with it became an anachronism. Moreover, the introduction of electricity to New Zealand's rural areas meant that the farmer no longer would require the horizontal oil engine. Two of the company's main sources of revenue were diminishing quickly. Alternatives had to be found. In 1922 Arthur Beaven went overseas. By the time he returned A & B had the franchise for an English tractor manufactured by Peter Brotherhood, of Peterborough. It was the kerosene-engined Peterborough tractor, a powerful machine capable of pulling a four-furrow plough. Not surprisingly, this new franchise was greeted with grave suspicion by the chaffcutting contractors. They saw in the tractor the weapon that was going to destroy their livelihood, and they threatened to boycott the company. Alive to the consternation it was causing, but quite undaunted, A & B soon entered into negotiations to expand its tractor range. In 1926 the franchise for the original U.S. farm



The "Selwyn" Chaffcutter First produced 1906.



Pacific Seed Cleaner Designed by S. W. Andrews in 1946.

tractor was obtained. It was the Hart-Parr and it became very popular in the South Island and was, in fact, one of the main reasons why the company opened its first branch in Ashburton in 1928 under the managership of Mr W. O. Hayes. In the same year a building for tractor assembly was built behind the show room at Moorhouse Avenue. It cost £1371.

The selection of Peterborough and Hart-Parr tractors was not a haphazard choice. They ran on kerosene, and thus A & B was able to draw upon the experience gained from servicing the Blackstone oil engines, which it had sold so successfully. Tractor sales and servicing was handled by M.W.B. who had been trained by Alf Bird, the machine shop foreman, to overhaul Blackstone oil engines. He went on the road with a motor-cycle in 1922 as a serviceman.

A & B sold 86 Peterborough and 250 Hart-Parr tractors, and in the process, the company was reorganised with the establishment of branches to provide the service farmers required for their machines, and the way was paved for the pneumatic-tyred revolution that was to follow. When it came this changed the face of the New Zealand agricultural scene, and subsequently the face of the country, for the rubber-tyred tractors were followed by highly mobile earthmoving, industrial and materials handling equipment. In the years ahead, A & B was to play a vital role in putting New Zealand's industry on pneumatic tyres, and establish itself as a leader in the field. But before that would happen the company, like so many others, would fight for survival through the Great Depression of the thirties.

The following year Mr G. M. Condliffe joined A & B and was appointed secretary of the company, a post he held until his retirement in 1962. He could have hardly taken up the appointment at a worse time. Towards the end of that year, 1929, the price of wool fell to 6d per pound at the Christchurch sale, and a year later the world plummeted into the slump of the thirties. A & B sustained big losses each year until 1934. The company lost all its reserves and barely managed to remain in business. That it did survive was due largely to the sale of land that in happier times it had bought for expansion.

Many of the tractors had been sold on terms, and when the promissary notes fell due they could not be met by farmers. Monthly orders had been placed with the company's New York shippers. The tractors continued to be delivered until the orders were cancelled. Single men employed by the firm had to be dismissed, and the married men went on to a three-day week. Business stagnated, and A & B, like so many other manufacturing concerns, found itself with no orders to fill.

Virtually the only activity was the maintenance of machinery working in the field, and supply of spare parts to keep the wheels turning. The company continued to give service when it was required, and it frequently did so in the knowledge that it was not going to be paid for the work. On one occasion the bank refused to meet the wages cheque. Turnover dropped to £12,000 a year, so it is not surprising that the company lost all its stocks and reserves. In effect, when the economy began to show an upturn in 1935, A & B had to start from scratch once more. Generally speaking, so did the rest of the country, which voted in the first Labour Government. Led by Michael Joseph Savage, this was the Government that introduced the 40-hour week. Up until then A & B had been working a 44-hour week—at least nominally!

Although the company fell upon hard times, it did not lose sight of the fact that the tractor had been accepted by the farming community, and was going to remain in New Zealand. In 1934 and 1935 A & B imported some crawler tractors, and the first three went to the McCaw family which farmed in the Hakataramea Valley. Yet another was delivered to Hope Brothers, of Grampian Station. In 1935 the Awatere County Council bought the first new type grader from A & B.

It was about this time that the company reached the conclusion that it needed a fuller line of power farming equipment. In 1936 Mr M. W. Beaven travelled to the United States to study at first hand the possibilities of continuing with the Hart Parr franchise, or switching to the Allis Chalmers Manufacturing Company which had a complete range of farm and industrial equipment. The die was cast. M.W.B. approached Allis Chalmers, but he did not share that company's enthusiasm about the future of pneumatic-tyred farm equipment in the first instance. However, Mr Harry Merritt, general manager of the tractor division of Allis Chalmers, was full of confidence, and he went so far as to offer A & B a tractor on pneumatic tyres, and an All-Crop harvester on a sale or return basis. It was an offer that M.W.B. just could not refuse. In the years that followed he had time to reflect that his graciousness, which was characteristic of the man, had been well rewarded. As managing director of the company from 1948 to 1964, he saw sales of tractors and industrial units climb to 2609, and harvesters and associated equipment reach 2175, for a grand total of 4784 Allis Chalmers' products.

Half of that machinery was sold prior to, and during, World War II, when the total staff of A & B averaged not many more than 40 people. It would be fair to say that the Allis Chalmers franchise played a large part in putting the company back on its feet.

The introduction of the Allis Chalmers line marked a turning point in the company's approach to the farming industry. Coupled with the completely new All-Crop harvester, also mounted on pneumatic tyres, it gave A & B outstanding machines to sell, and broke down finally the prejudice towards tractors. At first the company encountered keen criticism from other manufacturers, and the salesmen of all the firms that did not have pneumatic-tyred equipment, but Allis Chalmers had done its homework, and so had A & B. The reputation it had gained for producing reliable equipment, and wholeheartedly backing it with good service and spare parts, often given without thought of payment during the dismal depression years, had won for the company the general support of the farming community. These were the underlying reasons that accounted for A & B's growth from 1936 onwards. In fact, from that year until the outbreak of World War II in 1939, company turnover increased at the rate of 50 per cent per year.

Moreover, although the company imported the American-made equipment, this equipment in itself generated a demand for what, for lack of a better term, might be described as accessories. A & B was called upon to manufacture screens for the harvesters, pick-ups, power take-offs, bulldozer and angle dozer blades, rippers and other items designed for use with the rubber-tyred equipment. The Allis Chalmers industrial range laid the foundations for the company's now-thriving industrial division, and the range of ancillary equipment made by the company created the mood, and gave the background knowledge, which enabled A & B to move smoothly into the manufacture of materials handling and other equipment with a high local content, when New Zealand's balance of payments situation dictated that the level of imports had to be kept to an absolute minimum.

Along with the Allis Chalmers franchise, M.W.B. brought back from the United States the franchise for the Ann Arbor hay baler. It was the first automatic hay baler to appear on the New Zealand market.

Back in New Zealand, M.W.B. lost no time in exploiting the Allis Chalmers range of equipment the company now had to offer. He headed for Invercargill where the company's Southland service agency for Hart Parr tractors was Watts and Grieve Limited. His Invercargill visit could hardly have been made at a more propitious time. Sometime earlier Harry English had sought the opinion of Bill Grieve, one of the principals of the Invercargill Hart Parr agency, about accepting an offer of the agency for a rotary cultivator. Grieve, knowing something of A & B's plans for the Allis Chalmers range, advised English against accepting the offer, saying that Southland farmers would not depart from their traditional practice of ploughing, discing and harrowing. English would do better by aligning himself with A & B and Allis Chalmers, he said. The upshot was that Mr English met M.W.B. and Mr Ernest Cook, of Allis Chalmers, and was offered the position of sales representative for Southland and Otago. Although Harry English's major line was to be Allis Chalmers, he was also expected to promote and sell other A & B products, both locally manufactured and imported.

A satisfactory arrangement was agreed upon, and so began one of the company's most fruitful associations, out of which blossomed the vigorous Southland branch of A & B.

Moves were also made to strengthen company representation in South Canterbury. The decision to set up a branch in Timaru had been made in the late twenties. It was implemented by Arthur Beaven. He established an A & B branch office when he transferred the company's chaffcutter stocks from the Canterbury Farmers' Co-operative Association to premises the company had obtained, and appointed Alf Mason to run the South Canterbury operation.

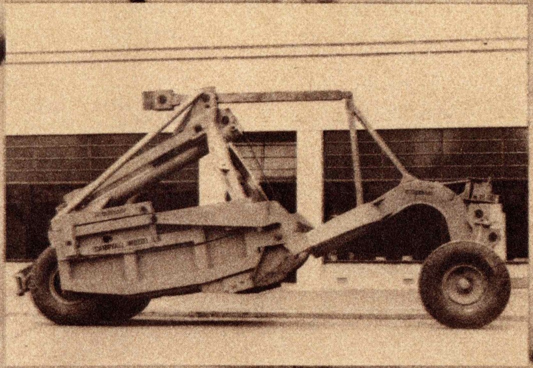
Mr Mason, who was destined to become the company's longest serving branch manager, was well conversant with the affairs of A & B, for he had been employed by Nicholas & Company, which had acted as A & B's tractor agency from the time of the introduction of the Peterborough. Nicholas, battery and electrical service dealers with strong associations in the farming industry, sold quite a number of tractors in South Canterbury. But in 1929 the firm suffered a setback from which it did not recover. A fire burnt out its Timaru premises, and the principal of the business chose to wind it up and go farming in the Nelson district. Then Alf Mason went into partnership with a man of the same name, but with no family relationship, with the objective of selling and servicing tractors for A & B. The partnership did not last for long, and so Alf Mason found himself running the business. The early thirties were difficult years in South Canterbury, but Alf Mason was industrious, and he spent most of each long working week visiting farmers who were clients or prospective clients, and always attending to their needs. Business was definitely picking up in South Canterbury when the company secured the Allis Chalmers franchise, and so it was then that the decision was made to establish a proper branch in South Canterbury.

With the full range of pneumatic-tyred and crawler tractors, as well as the harvesters, the Timaru branch soon outgrew its premises, and it was by no means uncommon to see half a dozen or more harvesters in various stages of assembly lining the street at the back of the branch building.

A & B had pioneered direct heading of grains and small seeds with the Sunshine Harvester, and South Canterbury farmers were very receptive to this relatively new method when the All-Crop came on the market. Some time previously, torrential rain and high wind had flattened bumper crops just before harvesting was due to start.

The situation looked disastrous. However, further north the harvest was over, and contractors were on the look-out for any work they could obtain with their automatic headers. They came to South Canterbury with their equipment, and using their efficient lifters they were able to head the flattened and tangled crops. The success of that harvest convinced the farmers about the efficacy of the automatic header, and its future was assured. Several hundred All-Crop harvesters were sold in South Canterbury, and they really came into their own during the small seed boom

Andrews & Beaven Allis-Chalmers Road Grader.



An early type towed scraper.

after World War II. Ironically, the South Canterbury crops were salvaged by contractors using mainly the Sunshine harvester. Soon afterwards the Australian manufacturer of the Sunshine sold out to Massey-Harris, and A & B lost the franchise. The position looked grim for a short time, but the outcome of M.W.B.'s negotiations with Allis Chalmers gave the company the versatile All-Crop harvester, and the situation was retrieved.

Enthusiasm and hard work had placed the company on a much more stable footing after the lean years, but the clouds of war were gathering. After the Munich crisis in 1938 there was little reassurance for the realists in the 'peace in our time' message of British Prime Minister Neville Chamberlain.

The declaration of war in 1939 left New Zealand, predominantly a food-producing country separated from its established market by thousands of miles of seas infested by enemy submarines and raiders, in a most invidious position. Imports dried up almost immediately. New Zealand firms that had for years supplied equipment to the vital agricultural and transport industries were left with literally nothing to supply. In the case of A & B it was the Allis Chalmers range. However it was not long before there was a general realisation that a major part of New Zealand's contribution to the war effort was food production, and that this had to be expanded. The Ministry of Supply arranged for the renewal of imports of vital equipment.

When World War II started, there were 209 All-Crop harvesters and 698 tractors, which included road graders, industrial tractors and the popular Wm wide gauged crawlers, working in New Zealand. As already mentioned, no more machines were imported until the Government realised that they were vital to New Zealand's war effort, and then shipments of 150 harvesters came in each season, starting with that of 1941-42, for the next three seasons. The war put paid to the Wm crawler, but during the war 870 steel-wheeled tractors were imported. The imports of harvesters and tractors put a heavy workload on the depleted A & B staff. Each machine had to be serviced and started up. Owners had to be instructed in their use. The service staff had to work extremely long hours, and under conditions that were far from ideal. There was petrol rationing, and as there was a total ban on the importing of cars and trucks, the firm's fleet of vehicles had to be kept in running order so that the servicing demands could be met. Delivery of harvesters and tractors was under the control of farmers' committees in each district. These committees decided to whom the equipment should go. On top of that, all units came under price control, and there were delays in invoicing the equipment. Enlistments in the armed forces gradually whittled away the number of company employees. Eventually A & B was forced to appeal against any further call-ups of its employees.

Early in 1940 the company was asked to report on the feasibility of manufacturing flax-pulling machines in New Zealand. Linen flax was desperately needed to manufacture fire hose to fight the fires caused in British cities by the Luftwaffe's bombers. In London alone it was estimated that hoses totalling 600 miles in length were in use each night during the height of the blitz. To prepare the report, A & B was supplied with a Belgian-made flax-puller as a prototype. That in itself presented problems for this machine was manufactured to metric measurements, and on top of that its design was the exact opposite of what was required for local use. In other words, the machine A & B was called upon to design was a mirror image of the prototype! While the problems involved in the design and construction of the flax-puller were difficult enough, this feasibility study also called for an answer to another question. Could A & B manufacture 100 flax-pullers in readiness for the coming season? After completing the study, the firm agreed to undertake the contract, and the company man delegated to carry out the job was one of the longest serving employees, Charlie Warman. He was given authority to procure men from the Manpower Committee, and he also had the authority to discharge any men who were either unsuitable for the job, or for whom he could not find work. These authorities sought by A & B were granted by the wartime Cabinet.

There were all sorts of problems associated with the actual manufacturing programme. Ball bearings were virtually unobtainable. When they were eventually procured it was disclosed that they had reached New Zealand after being transported through Persia by camel train. Rubber belts of special sizes had to be made in Australia. Locally-made leather belts were used until the Australian-made belts were delivered. In readiness for the harvest and the inevitable demand for spare parts that would arise, A & B took the precaution of manufacturing the spares at the same time as it manufactured the flax-pullers. However, all is well that ends well, and the 100 machines were in the field in time for the harvest. Performance was right up to expectations. They pulled the flax cleanly, and left a clean field. The demand for hoses showed no sign of diminishing, and so another 100 pullers were ordered for the following season. They were made and delivered on time.

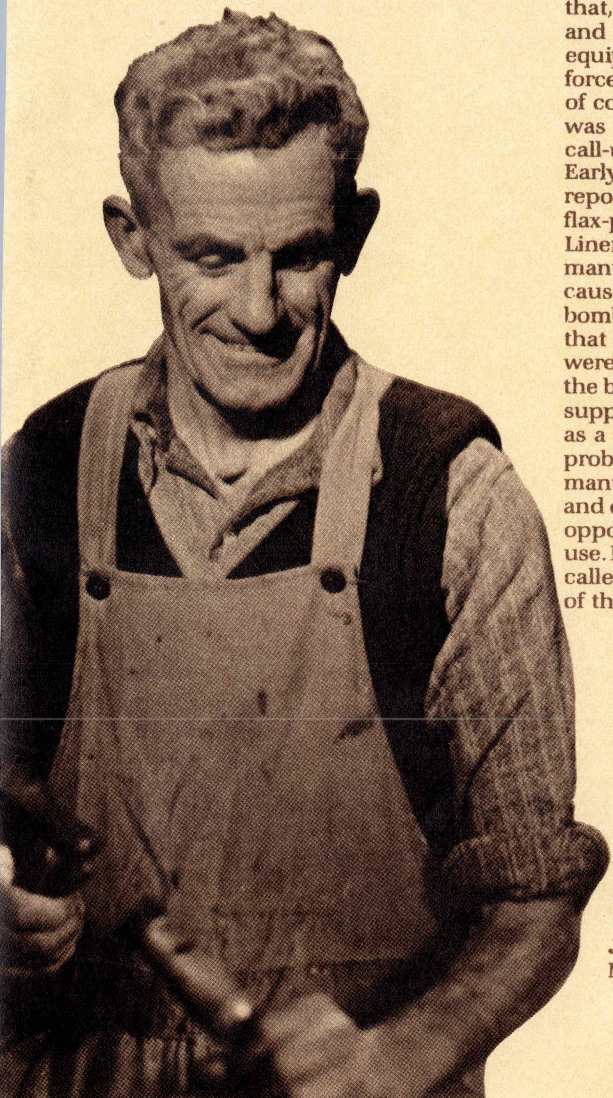
To process the flax, thirteen factories were built in New Zealand, and the company was awarded the contract to supply seed cleaning machines for each factory. This involved the manufacture of thirteen large seed cleaners with elevators and hoppers. These cleaners were the largest made in New Zealand, and their manufacture had to be fitted into the regular production programme, which had expanded, and also integrated with the flax-puller manufacturing programme to be ready for the first crop.

The New Zealand flax harvest differed from that overseas, where the flax was pulled when the first flower appeared. In New Zealand it was pulled when the seed was ripe. All the seed was saved and cleaned for sowing the following season, or for linseed oil manufacture. Previously linseed oil had been imported.

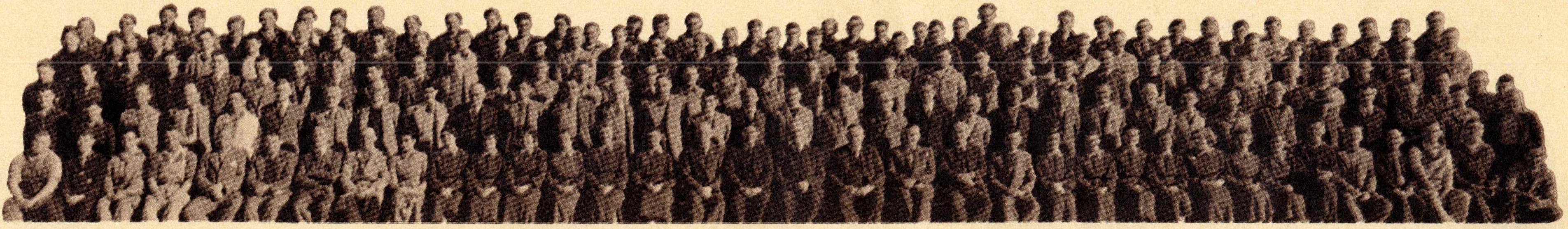
The manufacture of the flax-pullers and seed cleaners were top priority jobs. It was A & B's major contribution to the war effort, and the work was undertaken on a special cost basis. The works and staff manufactured for the Government on a non-profit basis.

Early in 1939, three potato diggers were imported with the view to examining the possibility of manufacturing this equipment in New Zealand. This was, in fact, one of the first projects investigated by the company with the objective of expanding its manufacturing output. At the start of the war, importers of potato diggers had their licences cancelled, and the Government asked A & B to manufacture diggers for local use, and undertook to procure for the company the parts that could not be manufactured economically in New Zealand. By this time New Zealand was heavily involved in supplying food to the forces in the South Pacific, and so potato digger manufacturing assumed prime importance.

Production was slow until all the components were in stock, but by the end of the war, 148 diggers had been delivered. Production continued afterwards, but the days of the A & B digger were numbered, as imports became available again. The volume of diggers required for the market did not justify manufacturing multi-row machines of varying width. However, the

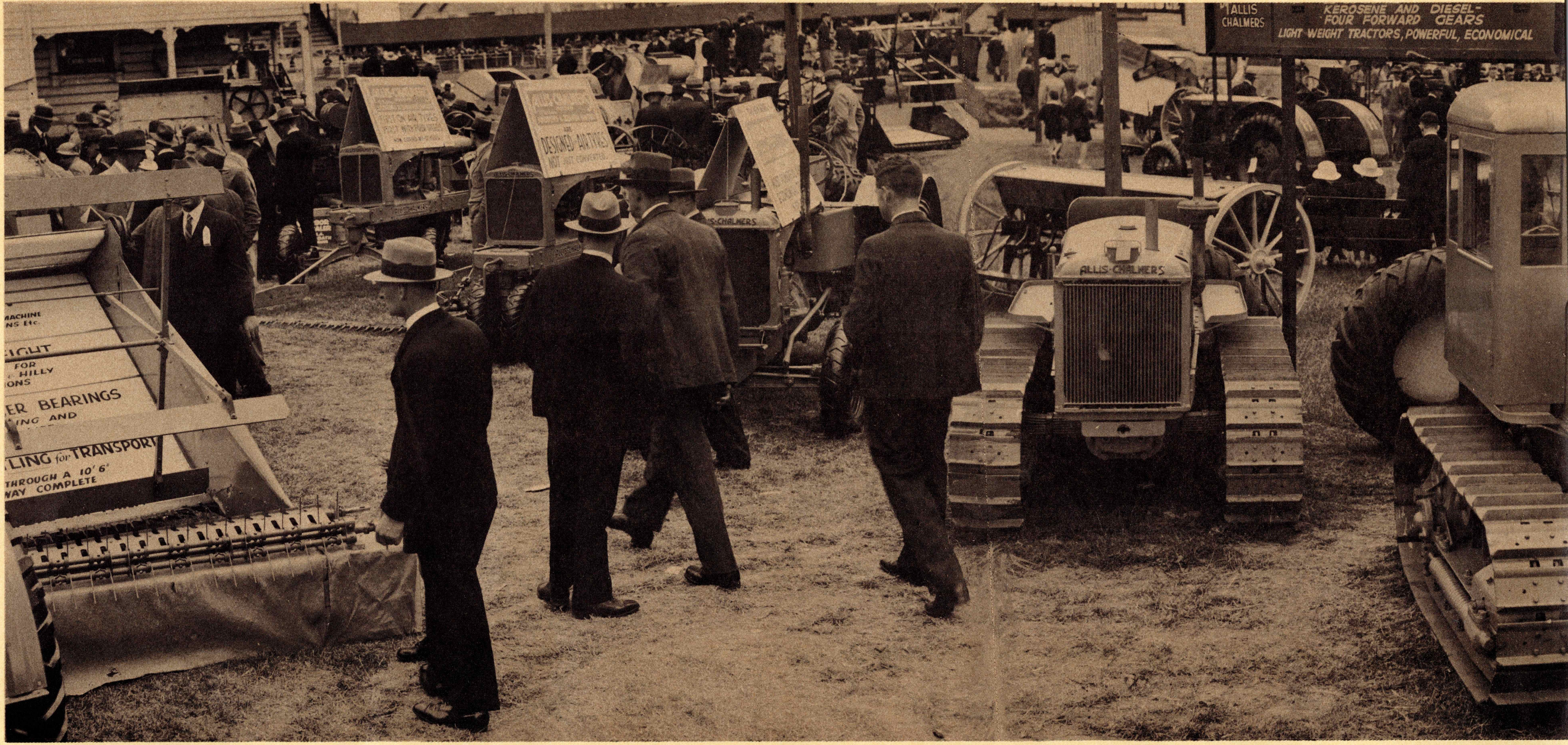


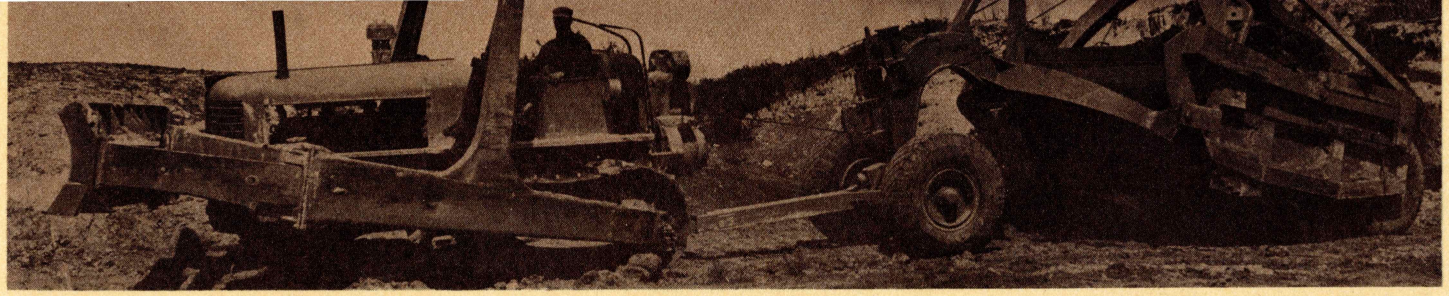
Jack Hobson—
Millwright 54 years on the staff.



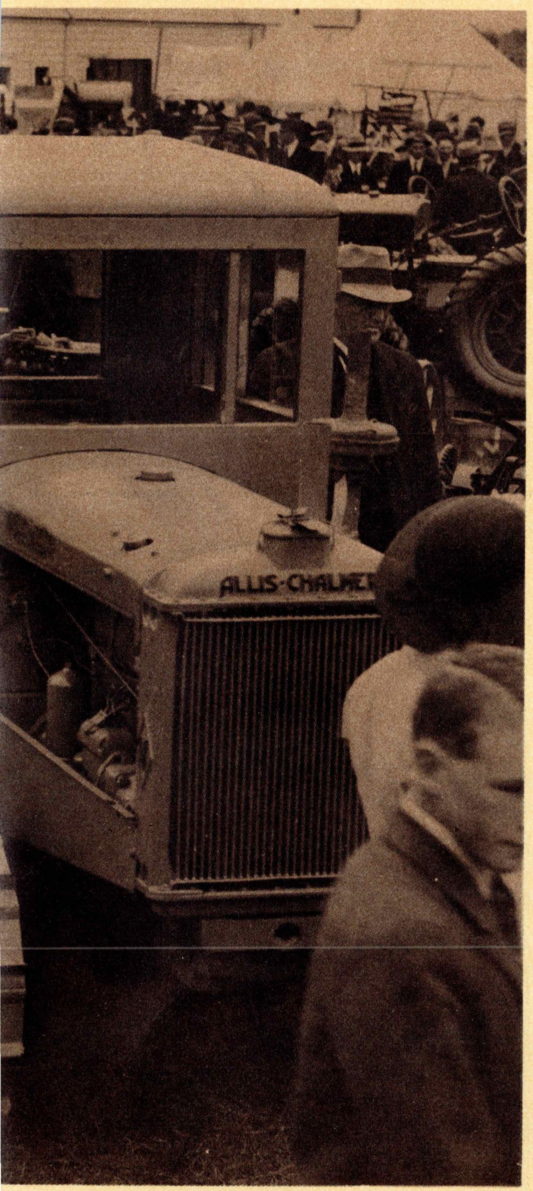
75th Anniversary
1953 Staff Christchurch.

Andrews and Beaven Display at a Pre-War Christchurch Agricultural and Pastoral Show





Early model towed scraper.



exercise had been a valuable one, for the experience gained stood in good stead when the company's full-scale manufacturing programme began later.

Supplies of imported small seeds from Northern Europe dried up at the beginning of the war and, as New Zealand was developing sheep meat production to supply food to her allies, there was a great demand for small seeds that was met by production from harvesters, of which A & B imported 600 during the war.

In the meantime, however, the groundwork involved in building up the tractor business was not without its excitement. The farmers had to be won over. There were no trade-ins. Horse breeders, like the chaffcutter contractors, were distinctly hostile. Everyone was quick to criticise. The tractors packed the ground, it was claimed. There were other complaints. On top of that, A & B did not have the market to itself. It, like other New Zealand companies, was competing with international companies which had established their own branches.

Demonstrations on the farms were the order of the day. Even competitive trials were held, and often they had to be driven to the farms from the railhead. As the top speed was less than 5 miles an hour, and the roads were shingled and rough, it was no joyride getting a rumbling steel-wheeled tractor to the farm for the demonstration.

Ploughing matches were, of course, very much a part of the New Zealand farmer's way of life in those days. The advent of the tractor added a new dimension to these matches. Companies engaged champion horse ploughmen to enter the new tractor classes, and competition was fierce. Each match became a well-planned and quite complex operation as far as the companies were concerned. Salesmen, mechanics and ploughmen were involved, as well as other helpers. Transport of tractors and ploughs to the various match venues was inevitably by rail. The gear had to be loaded and off-loaded from the wagons, and often on cold, frosty nights. Usually it was a case of manhandling these heavy implements, and this was no easy task, for the railway wagons were not designed for transporting unwieldy tractors and ploughs. It was a job that called for brute strength, and everyone pitched in. There was no question of working an eight-hour day. The work ended when the job was finished. Some of the men involved in the business were not too scrupulous. At times, tractors and ploughs had to be guarded to ensure that there was no tampering! It was by no means uncommon for rakes of empty wagons to be moved to the more inaccessible places at railway sidings, just to make the loading job even more difficult for the opposition. The heavy and difficult work, often undertaken by tired men, exacted its toll. There were accidents. Men were hurt, and there were even fatalities. Because the firm now had an established reputation for ingenuity in design and engineering excellence, it was often called upon to come up with solutions to individual and interesting problems. The West Australian Government sought a thresher for subterranean clover. A & B designed a thresher with two drums, one to thresh out the cobb, the other to remove the seed. For the Sanitarium Health Food Company's factory in Christchurch A & B designed and built an entirely new type of biscuit press. Subsequently it received an order for an even more complex machine—or rather three machines working as one—to do a similar job in the company's Sydney factory. The biscuits that these machines were designed to manufacture are today a household name in every New Zealand home—Weet Bix.

While the company continued to manufacture seed cleaning plants during this period, it was also called upon to design and construct some one-off jobs. Among them was a tobacco seed cleaner. This was a small machine by any standards, for tobacco seed is minute. Similarly, an onion seed thresher and cleaner was made for a Pukekohe client who provided no samples for testing. Also the company designed a number of cutters, which were really variations on the old chaffcutter in many respects. One was produced to cut up bank notes. There was another for cutting tobacco, and yet another to cut liquorice. In this instance, Aulsebrooks was the client, and it sent sample sheets of the liquorice which the men took as a goodwill gesture. However, there was at least one practical joker at Aulsebrooks, as the men soon found out to their discomfort. These orders for one-off machines were not only legion but also curious. There was, for example, the client who ordered a machine capable of grinding dried oysters. It turned out that ground, dried oysters were one of the constituents of a medicinal compound the client was manufacturing.

When Joseph Nathan and Company N.Z. Limited established its Glaxo factory at Bunnythorpe, A & B was called upon to manufacture a large amount of the machinery that was required.

Subsequently similar orders were placed for equipment for Nathan's other factories, and this was work that kept the Moorhouse Avenue machine shop working overtime for a number of years. Some of these special orders were instrumental in opening up new business on a larger scale. For example, the company was called upon to design and manufacture a special sifter for face powder for an Auckland cosmetic manufacturer. Subsequently the company manufactured sifters for bakeries all over New Zealand.

This diversity of production by the manufacturing side of the business stemmed largely from the loss of the chaffcutter business and the introduction of the tractor. The variety of the work, and the challenge so much of it presented, must have made a big impact on the company which, in the hey day of the Australian trade, was exporting 25 to 30 small chaffcutters and one large model each week. Variety, it is said, is the spice of life. There was certainly plenty of spice at A & B in the twenties.

The header harvester which, like the tractor, was to make such a big impact upon the future of the company in agriculture was introduced in 1927 through the good offices of a friend of A & B, a Doyleston farmer, Mr G. W. R. Osborne who later became a director of A & B. On his return from Australia, Mr Osborne told A & B that he had been most impressed with the performance of the Sunshine pea harvester, and he wished to order one. A & B obtained the franchise for the Sunshine harvester, and Mr Osborne, who had bought the first Peterborough tractor sold by A & B, also became the first New Zealand owner of a Sunshine header. Subsequently Mr E. T. Beaven handled the Sunshine range for the company, and made a great success of it.

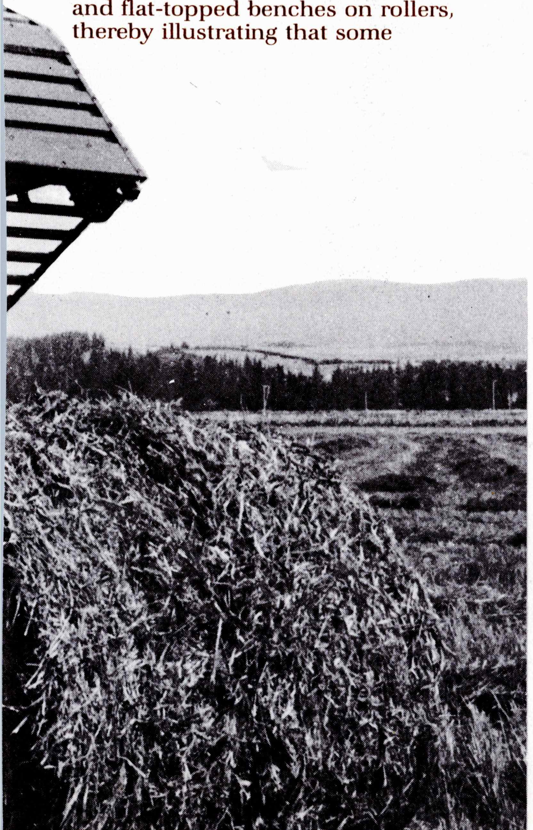
In 1928 A & B obtained the franchise for the Red River thresher, which was manufactured in the United States, and the company sold eleven of these machines, which became known as the 'Tin Mill'.

Millwrights Shop— Manufacture of seed cleaner, Middleton Works.

New Holland 850 Round Baler.

Seed cleaning machinery was needed to clean the locally produced seed, and this demand was met largely by A & B. The big plants became overloaded, and so a demand grew for smaller, portable machines. Designed by company specialists, they were driven by small petrol engines, and gave reasonable performance. With them farmers were able to sow their seed through their own drills.

The war revived one of A & B's lines of the very early days—the saw bench, which the founders of the company had made for Banks Peninsula farmers. The company had maintained its association with the sawmilling industry, mainly by updating equipment of many West Coast mills, with the advent of ball bearings. When the war came, the Americans in the Pacific needed saw benches, and so original designs were dusted off and used to fill orders for canted and flat-topped benches on rollers, thereby illustrating that some manufactured products are ageless. Experience gained in an earlier age can often be put to good use. When A & B had to construct an air raid shelter at Moorhouse Avenue, Charlie Warman remembered the effectiveness of the World War I German pill-boxes on the Western Front, and suggested building it above ground, rather than excavating in ground which was known to have a high water table. The board of directors went along with the idea, and so the shelter was built above ground, with an iron rack alongside it, and a a pattern shop above it. As the Government met half the cost and the Christchurch City Council one-third, it was a cheap building for A & B. At the end of the war the protective walls were demolished, and the shelter was converted to a ball-bearing store. Other city firms had nothing but water-filled holes to fill!



During Warld War II, A & B took up agencies for industrial equipment such as forklift trucks, mobile cranes and air compressors. In 1944 M.W.B. visited the United States with the authority of the Ministry of Supply, and made arrangements for the company to handle industrial equipment which was to be released at the end of the war in the Pacific. In 1946, the War Assets Realisation Board had a large number of forklift trucks for disposal from the Auckland wharves. As agent for one of the makes, A & B secured some, and also obtained bulldozers and draglines later in the year.

Built on Allis Chalmers foundations established in 1936, the industrial side of the business was enlarged by obtaining agencies for tractor shovels, forklifts, earthmovers and so on, lines that sold well in equipment-starved New Zealand. However, with the imposition of import controls in 1950, dollar purchases were curtailed, and A & B sought British franchises.

A & B had been a household name in the North Island at the beginning of the century, thanks to chaffcutters and Blackstone oil engines, but with the demise of these lines the name almost disappeared. The revival came with the awakening interest in industrial equipment. It brought a need for establishment of branches. In 1946 Mr W. C. Cummings, formerly of the Ministry of Supply, was appointed Wellington branch manager. In reality he was more of a commercial attache, as most of his work involved liaison between A & B and the Government and its departments. Then in 1950 a Wellingtonian, Mr W. B. Barnes joined the company, and was directed to set up an Auckland branch. For several months he worked from home, and carried quite a range of spare parts in the basement of his house. By then South Island branches had been added at Dunedin and Nelson, under the control of Messrs Jim Branks and Phil Mant, respectively.

At the end of the war it had been decided to send senior men in the company to the Northern Hemisphere, mainly to Britain but also to the United States and the Continent, to seek national franchises for agricultural, industrial and construction equipment, as well as engineering supplies.

The decision to seek national franchises from overseas companies was an early warning signal that A & B was about to spread its wings and fly into a new era. In effect, the decision meant the adoption of an overall policy change in which the company, a Christchurch-based South Island organisation relying almost entirely upon the agricultural sector for its income, would become a nation-wide company with a diversified product range that would be imported or manufactured as conditions dictated.

While A & B was regaining its breath and recovering from a major war, New Zealand was having to control overseas expenditure, and the main control was import licensing. The severity of the licensing system depended very much on the state of the overseas reserves, and on several occasions the ability of a company such as A & B to stay in business rested very much on the availability of the appropriate licences to import goods.

During the immediate pre-war period, the Government explored many avenues to get people back to work following the depression. One avenue was the fostering of secondary industry, and another was the implementation of a vigorous public works programme. The latter was one in which A & B could participate through its Allis Chalmers franchise. When the war came, New Zealand was forced to look after itself much more so than it had done in the past, and this stimulated the country to progress industrially. In short, because imported goods of an essential nature were unprocurable when they were wanted, local industry was forced to make them, or suitable substitutes.

When the war ended there was a large body of opinion that considered local manufacture was the solution in the prevailing climate. However, there were the traditionalists who held firmly to the view that New Zealand's prosperity was in the land, and the country would continue to be best served by using all its resources for primary production.

A & B's board of directors decided to play it both ways. The company would seek and obtain agencies for engineering and allied products, particularly capital equipment, for sale through a national distribution network, and promote those manufacturing facilities that were able to survive in times of severe import licensing.

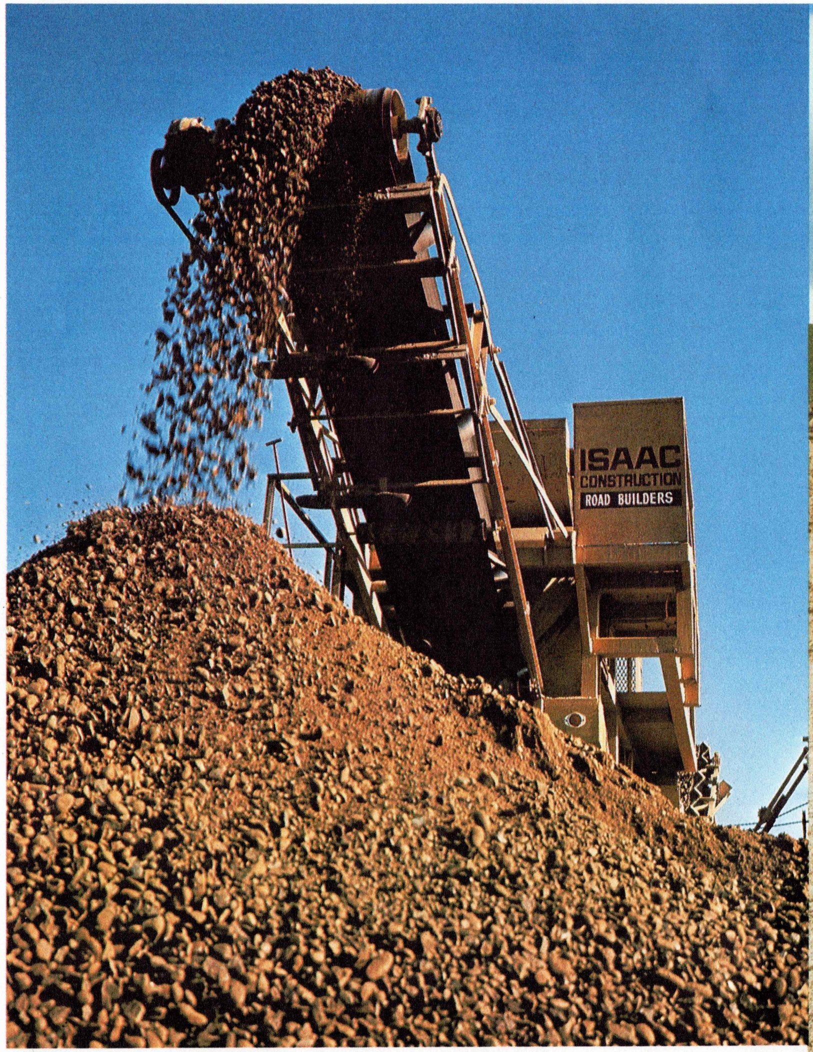
This decision was made when the company had only three branches —Ashburton, Timaru and Invercargill. They were managed by Messrs Watty Hays, Alf Mason and Harry English. Additionally there were agents in Oamaru, Dunedin, Blenheim and Nelson. They were Ernest Reid and Co Ltd, Donald Reid and Co Ltd, W.G.G. Cuddon and Co Ltd, and Levin and Coy Ltd, respectively. At that time the main product line was Allis Chalmers, and as the company had the South Island agency only, there were many problems. Distribution of Allis Chalmers in the North Island was in the hands of two agents. Having experienced the complications of such a set-up, the board decided that henceforth it would not accept a franchise unless it was for the whole of the country.

Obviously the moves proposed were to change the company's structure, and could not be undertaken without an injection of capital. The board took the vital decision to reconstruct the company with outside shareholdings, and change A & B from a privately owned to a public company.

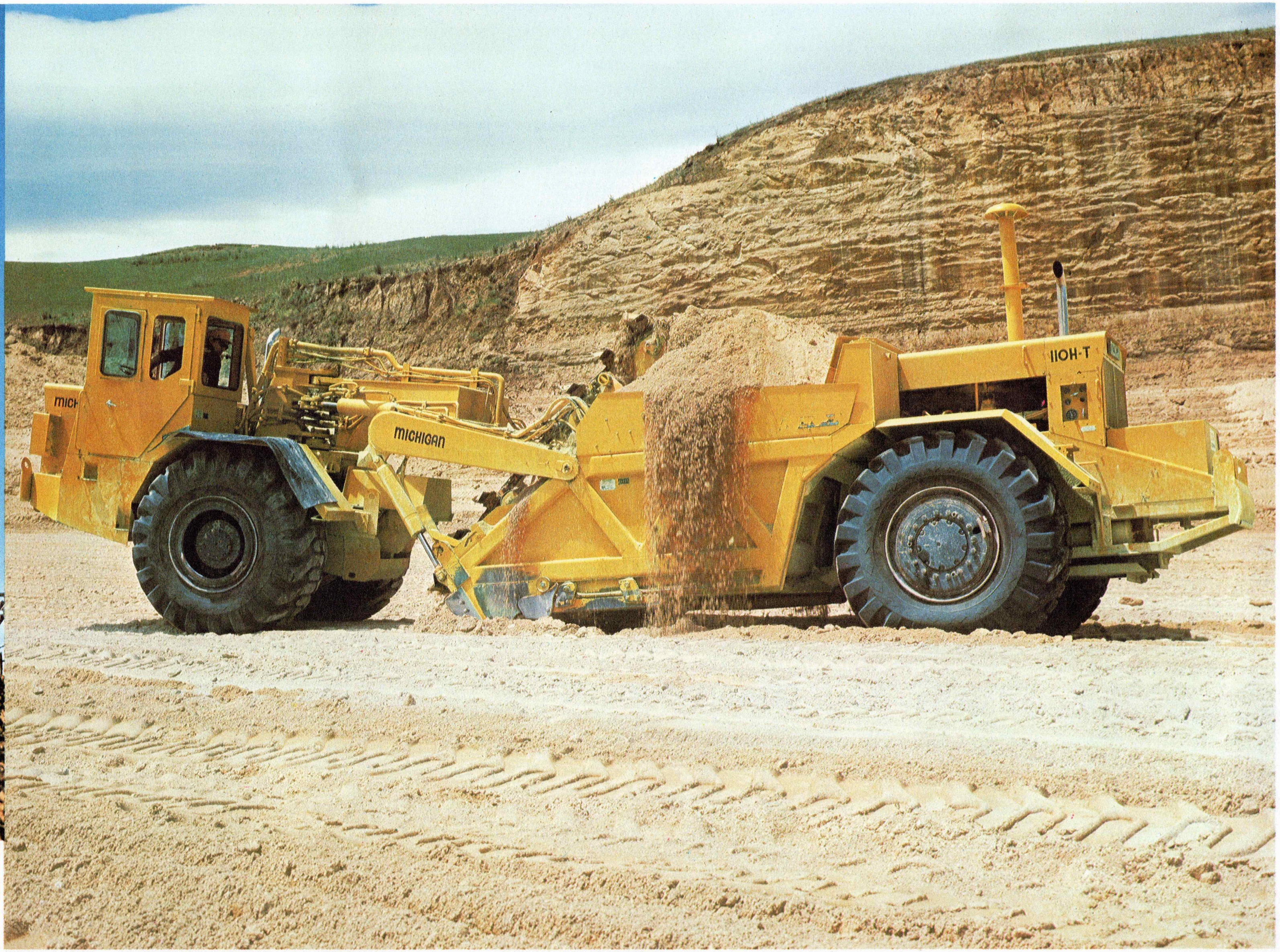
In June 1947 the paid up capital was £20,000. Reserves amounted to £31,736, and so total shareholders' funds were £51,736. In the 1947 accounting year, turnover reached £431,472. It had virtually doubled in four years. Clearly the board could not implement its decision without more capital.

A prospectus was issued in May 1948. It offered for subscription 60,000 5 per cent preference shares which were to have an asset backing of 37s. The purposes of this issue were to repay £15,000 owing on debentures, and to provide additional funds for development. When the issue closed it was oversubscribed thirteen times.

Shopping for agencies in the Northern Hemisphere had already started. M. W. Beaven, then managing director of the company, and T. W. Andrews spearheaded the campaign. They were followed subsequently by E. T. Beaven and W. B. Barnes. All made lengthy trips of six to nine months, and that meant that the company had a representative in highly industrialised and technically advanced countries almost permanently. These men formed many trading associations that have continued to the present day, and will, no doubt, continue to flourish.



A Symons Crusher stockpiling
ground gravel, with a belt conveyor
at Issac Construction Limited Christchurch



Clark model 11OH-T twin powered elevating motor scraper ripping
and loading limestone in Hatuma lime quarries, Hawkes Bay.

Diligence brought its rewards, and new accounts were developed. The injection of capital provided by the 1948 issue made expansion possible.

Due to the success of M.W.B. and T.W.A. in Britain it became necessary to establish a branch with a showroom and warehousing facilities in Auckland, which was rapidly developing as New Zealand's leading commercial centre. The Auckland branch really came into being when W. B. Barnes moved A & B's business from his home to “machinery lane”, Fort Street. At the time office accommodation was almost impossible to obtain, but the establishment of the Totalisator Agency Board proved a godsend for the company. For some months A & B used premises that had been occupied by New Zealand's biggest bookmaking combine. The T.A.B. had put it out of business!

The aggressive new policy of A & B's board initiated a period of substantial growth for the company. A bona fide Wellington branch was established in Wellington in Able Smith Street. In Hastings the company bought out a small agricultural equipment distributor, Farm Mechanisation Ltd, and set up a branch. During the same period the company bought a 50 per cent interest in Donald Reid and Company, A & B's Dunedin agent. New premises were built on reclaimed land on Dunedin's foreshore. South Island representation was further strengthened with the establishment of an Oamaru branch. By the end of 1964 the company had branches at Nelson, Ashburton, Timaru, Oamaru, Dunedin and Invercargill, as well as its Christchurch headquarters. There were still only three branches in the North Island. By that time the policies decided upon a decade previously had taken material shape.

In 1947 A & B had outgrown its Moorhouse Avenue facilities. Four acres of land were bought at Middleton on the southern perimeter of metropolitan Christchurch, where it was proposed to build a service centre and, ultimately, to expand the company's manufacturing facilities. Later in that year the architect was instructed to prepare plans for welding and machine shops, a manufacturing section for seed cleaner production and a store at Moorhouse Avenue. However, it was not until 1951 that a building permit was issued for this work.

But while plant expansion plans and manufacturing and importing agreements were being made with overseas firms, trade on the national level with the United States was being actively discouraged, and so there was a decline in the company's mainstay, the Agricultural Division. Sales of industrial and agricultural tractors were the responsibility of M.W.B, who acknowledged that the industrial side of his domain was gaining strength. He turned over the agricultural tractor franchise to his brother, Eric, and almost immediately the turnover of the division began to pick up.

When viewed in retrospect, there were many concerns that were finely drawn in the minds of the men who controlled the destiny of the company in those days, but they were really only details on a much larger canvas, the composition of which had been planned over a much longer period, but defined by the board in clear outline with the adoption of the new policy.

This was a time when the company was able to capitalise upon an urgent demand for seed cleaning equipment. New Zealand with its agrarian based economy was ideally placed to meet Europe's desperate need for seeds. Land ravaged by war and left untended because of lack of manpower had to be revitalised. There was a ready demand and a high price for quality, cleaned, New Zealand seeds. The company found itself deluged with orders for seed cleaning equipment.

The European demand for seed was but an indication of the resurgence of interest in the whole spectrum of farm products.

Farmers had to increase production, and so A & B's lime crushing and spreading machinery found a ready market. But this was a period that produced a major problem within the company.

Traditionally A & B had been heavily involved in introducing, marketing, distributing and servicing farm tractors, the bulk of which were of American origin. Now it found it could not import tractors from the United States, as there were no import licences. Although the Agricultural Division stayed in business, by current standards it was only picking up the crumbs until 1970. Fortuitously, the company had formed an association with the Italian Fiat company in the early fifties, and the fruits of that association began to be harvested before the end of that decade. The first Fiat crawler tractors, some equipped with earthmoving blades manufactured in A & B's works, were sold by the Industrial and Agricultural divisions in 1959. However, a farm equipment supplier cannot live by tractors alone. They are only power sources for the productive implements that can be attached to them. It was not until 1970 that A & B was able to complement the Fiat range and offer a complete package. In that year the company was appointed distributor for New Holland, a division of the Sperry Rand Corporation. New Holland produced the first automatic baler in 1940, and today this Sperry Rand division is acknowledged to be a world leader in the field of grassland machinery and combine harvesters.

Overseas forays made by the company's top men in the fifties gained many new franchises for A & B. They included earthmoving equipment, draglines and forklift trucks. Some of these products became the company's main manufacturing lines a decade or so later. So when the Moorhouse Avenue plant was updated in 1952, and modern machine tools were installed, the company's direction for expansion was along the path away from its traditional agricultural market and towards industrial products.

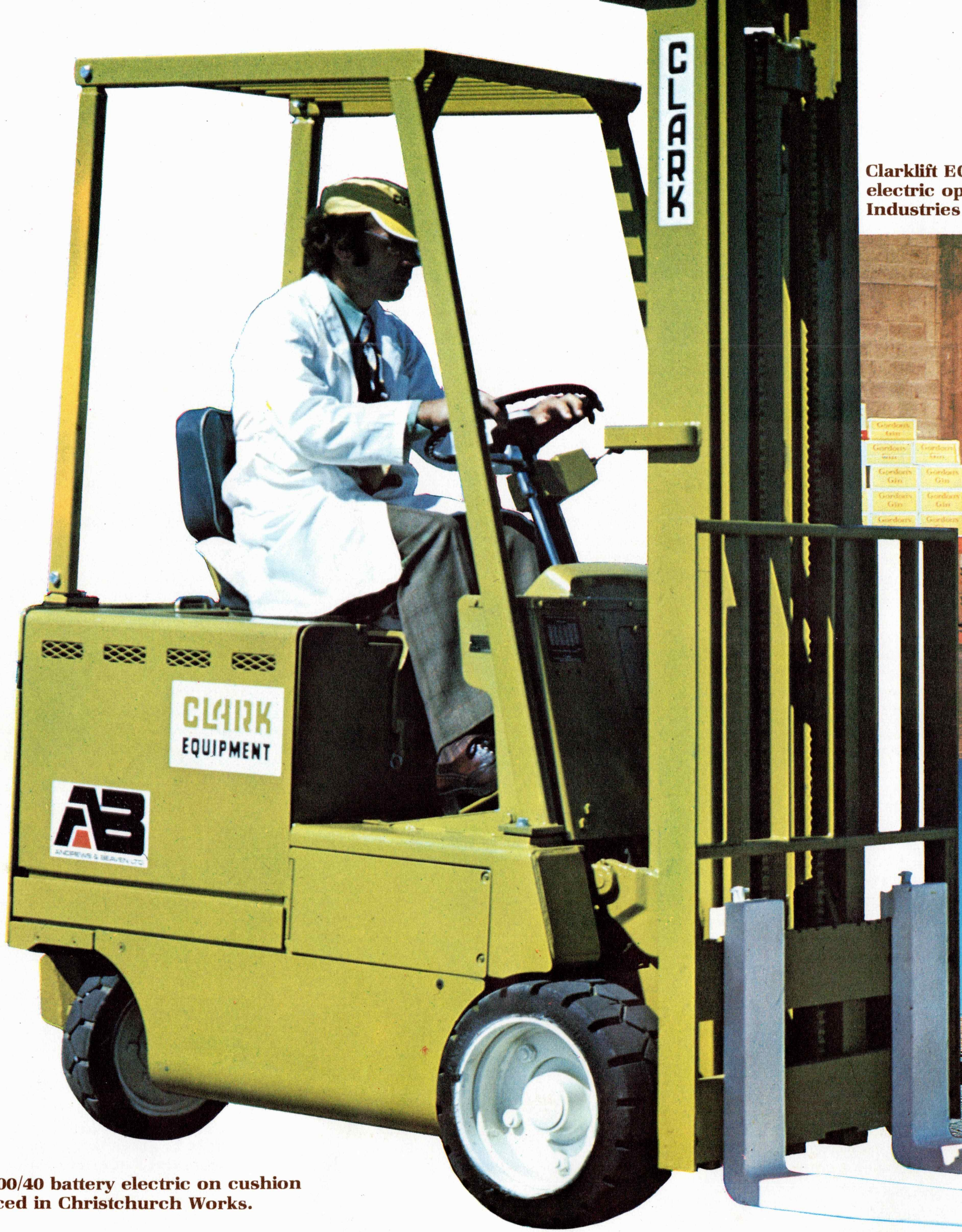
In this manufacturing programme production of lime crushing and spreading machinery, conveyors, screens and rock crushing plants, bitumen sprayers and bulldozer blades and other attachments figured prominently.

In the early fifties the farmer became prosperous, and firms engaged in industries associated with the agricultural sector prospered also. The real industrial growth, which was in much greater depth, emerged towards the end of that decade and in the one that followed. The change from agricultural production, pure and simple, was sparked off by the slump in wool prices at the end of the Korean War. Accompanied by a balance of payments deficit following an overseas spending spree, it came at the heels of a severe clampdown on imports, and the restrictions being aimed at restoring the balance between New Zealand's overseas earnings and its spending.

In 1957 a decision which was to have a profound effect on the company's growth was made. This was to go into the manufacture of a restricted range of mobile materials handling and construction equipment. This called for substantial expansion of A & B's production facilities. In fact, the company was possibly the first in New Zealand to appreciate the potential of materials handling equipment, mobile and stationary. It had been developed to a great extent during Word War II. Agencies had been secured for a wide range of handling equipment such as forklift trucks, rubber-tyred loaders, side loaders and so on. It is interesting to note that the first side-loading forklift truck ever used by a private operator was supplied by A & B and placed in work at a Christchurch timber yard. These machines had been developed by the United States Air Force to load palletised jeeps into transport aircraft, and the applications to which they were put in New Zealand were quite unique. The U.S. Department of Agriculture filmed the handling operations developed by the New Zealand Apple and Pear Board at Hastings and Nelson, where straddle carriers and forklift trucks were used to handle palletised loads of apples and pears. A & B became predominant in the mobile materials handling field, and represented such well-known companies as the American Towmotor Corporation, Industrial Truck Development and Wessex Industries of Britain, Lancer Machinery, the first manufacturer of side loading forklifts in Europe, and Shelvoke and Drewry, which developed a fine range of heavy duty forklifts.

Thus, when the company decided to manufacture mobile handling and construction equipment in 1957, it was in a position to draw upon extensive experience in the field. Because of the controls on the importation of this type of equipment, many second rate substitutes had been developed in New Zealand, and the company decided that there was a need for the local production of more sophisticated machines. After a study of the entire materials handling industry, a decision was made to enter into a manufacturing agreement with the Clark Equipment Company of the United States. Clark had an international reputation for licensee manufacture. It had been a major manufacturer of transmission and similar components, and had become a capital plant manufacturer by acquiring other companies. Thus A & B allied itself with one of the finest materials handling companies in the world. The decision taken and negotiations completed, the company acted quickly. In 1959 Mr Maurice Jauncey went to England where he spent several months studying forklift manufacturing techniques. On his return to Christchurch he assumed responsibility for setting up the production lines which were to become a major force in the company's manufacturing operations.

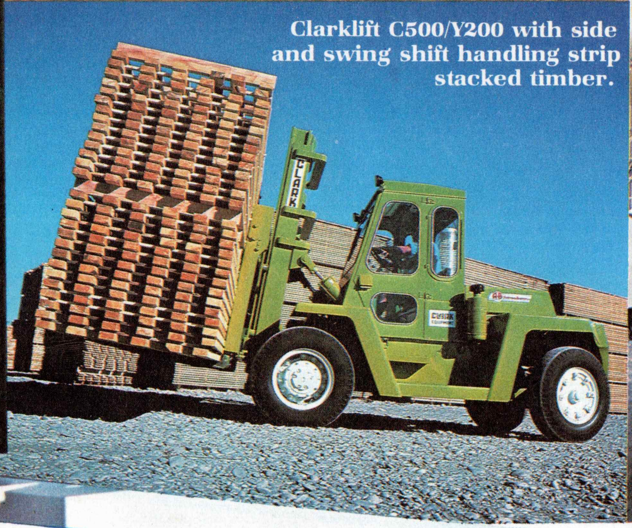
It was at this time that the Middleton works was expanded. Earlier this site had been commissioned to keep pace with the increased production of crushing plant and agricultural equipment. But in the first instance production began in a relatively small way at the Moorhouse Avenue works, and within the rather limited facilities at



Clarklift EC500/40 battery electric on cushion tyres produced in Christchurch Works.

Clarklift EC500/55 battery electric operating in Ballins Industries Warehouse.

Clarklift C500/Y250s fitted with special container handling attachment operating at Wellington Container Terminal.



Clarklift C500/Y200 with side and swing shift handling strip stacked timber.

Clarklift 500/Y50 operating at Bunchanans Foundry, Christchurch.

Middleton. Moorhouse Avenue was the launching pad. The excellent facilities that had been installed there when the premises were further developed and refurbished a few years earlier had a potential that had not been fully tapped, because of a decline in demand for certain agricultural machinery. At last the heavy lathes and milling machines were put to full use when production of forklift trucks began in quite a small way, but proceeded with gathering momentum.

Diversification in industrial manufacturing started with the production of the Kue Ken jaw crusher which was used to produce road metal and concrete aggregate. Then the company moved into a new field, the production of a range of power transmission equipment. New Zealand and A & B were on the threshold of a new era, and all the years of experience of the company in building an almost infinite variety of machinery was drawn upon to plan and initiate the manufacture of the new products this era was to demand.

In the early sixties it became necessary to again expand the facilities at Middleton because of the production growth. This was to be the pattern for the decade. There was additional building at Middleton in 1965 and 1969. The company was also extending its sphere of influence in the North Island. In 1964 a factory was built at Mount Wellington, an Auckland industrial estate. Originally it was intended that this works would cope with an anticipated demand for crushing plant in the area. The location of this works once again highlighted A & B's growing concern.

Representation in the North Island was extremely thinly spread. If the company was to exploit its manufacturing facilities to their full potential, it was essential that a nation-wide network be established as soon as possible.

When viewed in retrospect, the period from 1948, when A & B became a public company, until 1965 can be likened to the period between the sowing and the harvesting of a crop. The company had rebuilt its Moorhouse Avenue works and made it one of the best in Christchurch. It had established fabrication shops at Middleton and Mount Wellington. It had reorganised and stabilised its branch network in the South Island, and formed the nucleus of a marketing organisation in the North Island. It had experienced changes in trading patterns with the imposition of a restrictive import licensing system, a decline in demand from the agricultural sector, and an upsurge in growth of the industrial sector.

To meet the requirements imposed by the new trading patterns, the company had reorganised itself internally, and set up four distinct trading divisions. After devoting many years to nurturing and developing the industrial side of the business, Mr M. W. Beaven became the full-time managing director of A & B. Mr T. W. Andrews became the director of the newly-formed Power and Industrial Division, and Mr E. T. Beaven the director of the Agricultural Division. Transferred from Auckland, Mr W. B. Barnes took over the newly-established Industrial Division which handled, among other products, construction and materials handling equipment. A steadily developing merchandising activity was the basis of the fourth trading division, Spare Parts. This was under the management of Mr J. F. Royds. Messrs Barnes and Royds became the first executive directors to be appointed after the restructuring of A & B as a public company. Subsequently Mr A. H.W. Beaver, who had joined the company to oversee its Auckland servicing aspects, and then became Auckland manager, Wellington manager, and the Wellington area manager, joined the board. So, too, did Mr W. B. Beaven, a son of M.W. Beaven, who after gaining overseas experience, assumed responsibility for the company's workshops which were to become the basis for the Manufacturing Division.

So, as A & B approached the mid-sixties, the new crop had struck and was reaching the stage for harvesting. Carrying the analogy one stage further, all that the company needed was the equipment to do the job. This was a subject that had exercised the minds of board members for a considerable time.

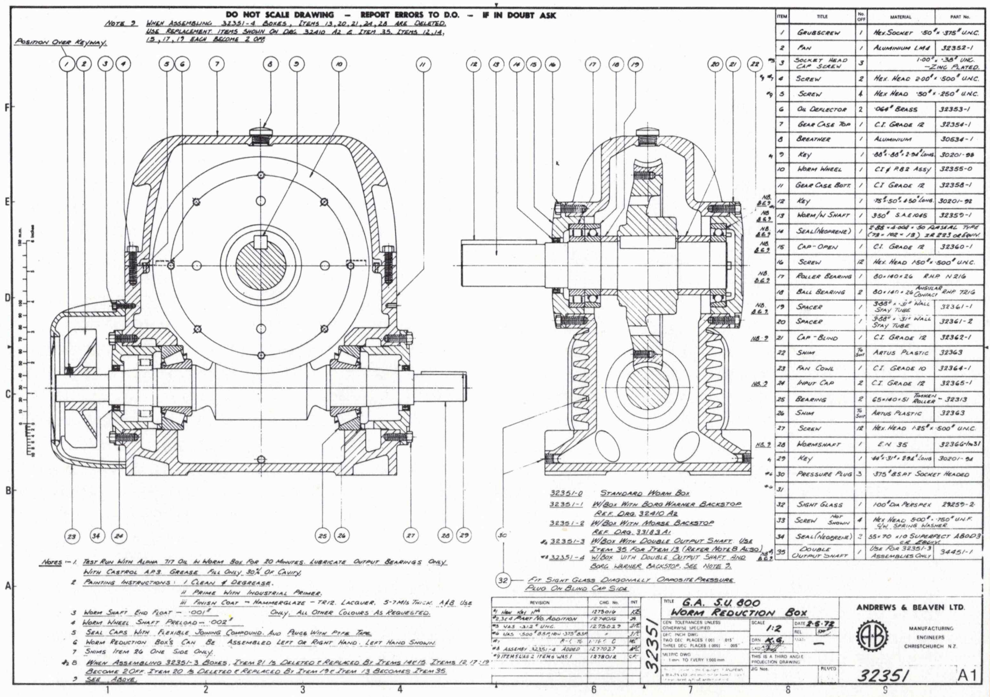
Basically there were two paths open to it. One was to establish branches throughout the North Island at strategic points, and the other was to merge with, or take over, a company with similar interests that was well established in the North Island. There were obstacles along the first path that were not insurmountable, but they could not be surmounted as expeditiously as A & B desired. Apart from the time that would be needed to acquire suitable properties for the branch offices, people would be needed to man them. At the end of 1964 the company had a staff of 437, and was facing up to a shortage of skilled tradesmen. A & B was stretched to the limit to maintain full servicing facilities and technical assistance for its clients at each of its existing branches.

On balance, the second path involving a merger or takeover was much more attractive. A review was made of New Zealand companies that were most active in the North Island. This review gave the A & B board cause to believe that for a number of reasons the Auckland-based company of John Chambers & Son Ltd would not be averse to a takeover approach, a belief that was reinforced following informal discussions between the principals of both companies.

During its hey-day, Chambers was the foremost company of its type in New Zealand, but at the time of the takeover discussion, it had already begun to encounter hard times. Due to a series of unfortunate circumstances, mostly beyond the control of management, it was running into increasing problems. Its origins were somewhat akin to those of A & B, but it lacked the manufacturing resources that were needed to provide it with a stable source of supply of many products. In July 1965 A & B made an offer to the ordinary and preference shareholders, and in a letter to the shareholders the chairman, Mr G. N. Roberts (Later Sir Geoffrey Roberts), stated that the directors of Chambers had no hesitation in recommending the acceptance of the A & B offer. In fact, both parties had seen the merits and value of such a move in their preliminary discussions. This takeover was to be a marriage of friends, and the Chambers shareholders gave it their blessing by adopting the recommendation of their directors. John Chambers & Son Ltd became a wholly-owned subsidiary of Andrews and Beaven Ltd, and Mr Roberts and Mr D. L. Smith were appointed to the A & B board.

Brierley Investments Ltd expressed an interest in the negotiations, but the takeover was handled smoothly, although it caused quite a stir in commercial circles, because Chambers was bigger than A & B from the point of view of net assets. For several years prior to the takeover, Chambers' earning performance had been well below accepted standards, and consequently the value of the ordinary shares was low in comparison with the company's assets.

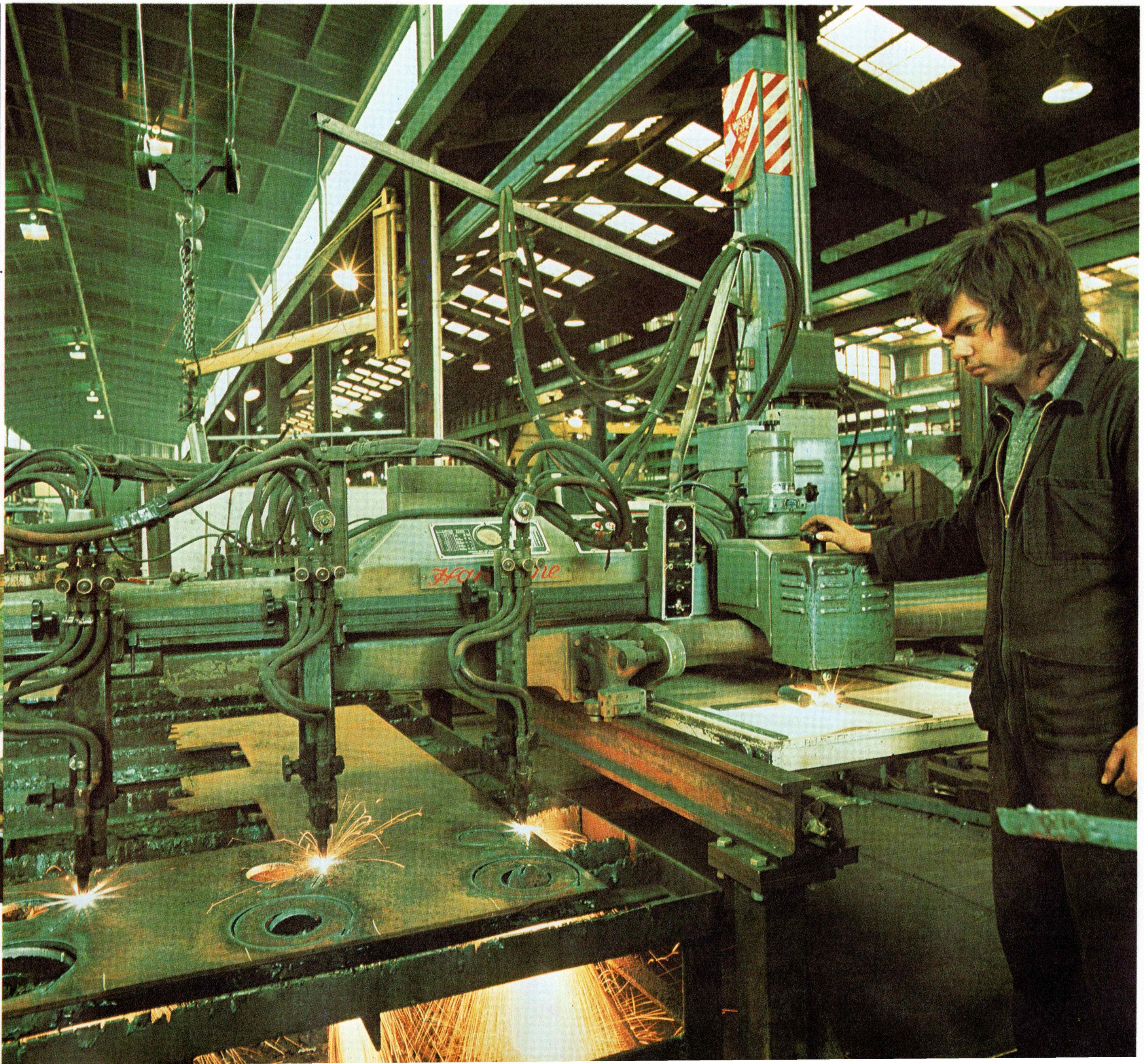
With the takeover A & B automatically promoted itself into the league that mattered. It automatically doubled its staff to more than 900, and it was deployed in the substantial workshops at Moorhouse Avenue, Middleton and Mount Wellington, and seventeen branches between Whangarei and Invercargill. The new North Island branches were at Whangarei, Hamilton, Tauranga, Gisborne, New Plymouth and Palmerston North. In addition there were six selling depots, and



Drawing of an S.U.800 Worm Reduction Gear Box designed and built by Andrews and Beaven.

Trumpf CS^{20} Co-ordinate Copy Punch Nibbler Machine Tool.

Han—Co—Mark Co-ordinate oxy-acetylene six head profile cutter with transistorised solid state scanning head.



full servicing facilities at all major branches. In the four main centres there was qualified technical staff. Chambers was asset rich mainly in land and buildings. It was in the process of building a large office and warehouse complex at Lower Hutt, having just sold its premises in down-town Wellington.

However, though the takeover had been effected smoothly, rationalisation of the two companies into one manufacturing and marketing organisation was fraught with problems. The companies had strong representation for engineering products, and there were many conflicts of interest. Some suppliers who had worked through Chambers for many years were unhappy about the ownership change. Others were obviously delighted. Rationalisation of the product lines was accomplished simultaneously with the rationalisation of marketing facilities. Where appropriate, a Chambers product line was transferred to an A & B specialised division. Two marketing divisions were created to handle those lines that could not be transferred, and some traditional A & B lines went to those divisions. The main divisions were Automotive, which was established in the new Lower Hutt complex, Industrial Services, set up in Auckland, and in Christchurch the Industrial Power Division.

In many respects, the history of John Chambers & Son was comparable with that of A & B. A Hertfordshire man, John Chambers served his apprenticeship in the ironmongery and coppersmith trade in Greenwich. He helped fit out ships, many of which were transports used in the Crimean War, the Great Eastern being among them. Later he worked in the immigrant ships and, no doubt, the many travellers he met turned his thoughts to the possibility of pioneering in some distant colony.

New Zealand held out the allure of gold discovered in 1861, and so it was to Auckland that John Chambers came in the early sixties. Auckland was a boom town in those days, but the boom faded with the curtailment of soldiers' spending as drafts of the Imperial Army returned to Britain. In 1868 war broke out again with renewed vehemence in the vicinity of Auckland, and Chambers joined the volunteers.

When he was demomilised in 1870, Chambers went gold mining in the Thames district, but within a year he found Auckland and the world of commerce held out more attractions, and he joined the ironmongery firm of E. Porter and Company as a partner. After a few years he visited England and North America, and secured some agencies with which he returned to Auckland. In 1887 he withdrew from the partnership and became managing director of T. & S. Morrin and Company Ltd. When that firm was reconstructed, he and his son, John M. Chambers, founded the company in 1893 for the purpose of supplying and installing mining machinery as well as other equipment.

Father and son had little capital, and they made a modest start, but they made steady progress, until the Thames-Coromandel mining boom when the firm gained a large share of the business offering. When the mining bubble burst, John Chambers & Son was stronger financially, and had gained a reputation for completing its contracts no matter the cost.

In 1898 the business was formed into a limited liability company with premises in Auckland, and two years later a Dunedin branch was opened. Then other branches were set up at Wellington, Christchurch and Invercargill. The firm progressed this way until it achieved virtually nation-wide coverage. But the character of the business changed. With the collapse of the mining boom, Chambers lost two-thirds of its business. It turned to the flax-milling industry, and soon it was equipping new mills with stripping and scutching machinery, as well as Tangye oil engines and pumps, the Tangye association was close. John M. Chambers, who had come to New Zealand as an infant with his parents, returned to England to complete his education, and then served his time with Tangye to qualify as an engineer. In 1898 he married Sir Richard Tangye's daughter.

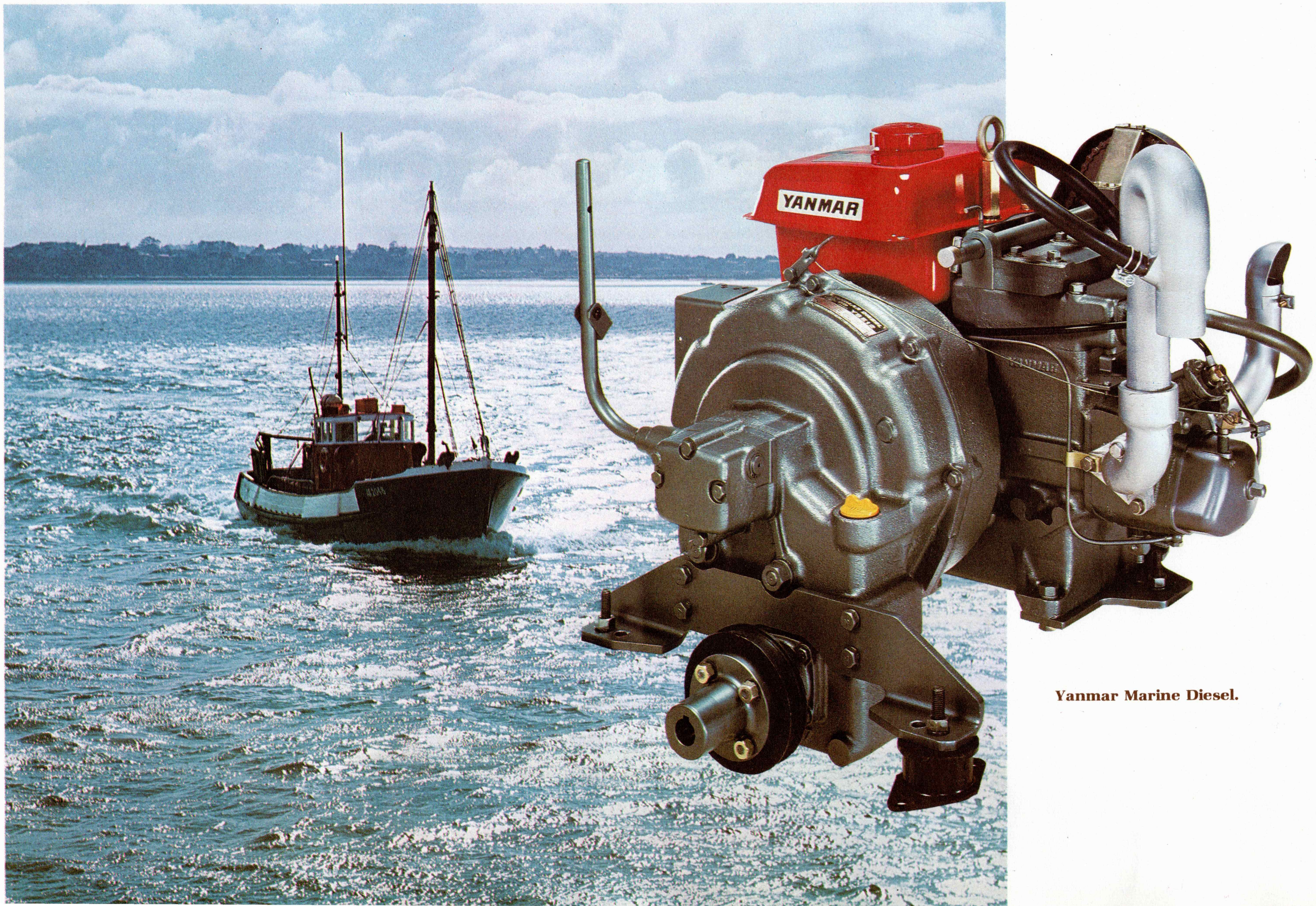
John Chambers died suddenly in 1904, and his son carried on the now flourishing business, securing the Haslam Foundry and Engineering Company's agency. Big contracts were obtained for the supply of equipment to the freezing industry which was beginning to grow in New Zealand. These contracts were for Haslam ammonia compressors and Babcock boilers.

The freezing industry opened up new business for the firm, and so did the dairy industry. Tangye steam engines and boilers were used to equip many creameries, until home separation made them redundant. Chambers again lost business, but recovered by selling the farmers oil engines to drive the newly-introduced milking machines. This proved more profitable than supplying equipment for the creameries.

As was the case with A & B, John Chambers & Son found that demand for machinery increased with the growth of secondary industry. Each new development made it necessary to carry a larger and more varied stock of equipment, and the advent of the motor-car opened up a new and valuable market in automotive spares for the firm. This aspect of the business was to be of great consequence to A & B after the takeover, for it moved into the automotive spares and accessories business, and from that position it became heavily involved in the engine, clutch and brake reconditioning industry. A & B is now a leader in this particular field, and the Automotive Division accounts for more than a quarter of the firm's annual sales.

The takeover of John Chambers & Son created more than a ripple in New Zealand's industrial sector. But the move was not without precedent. More than 60 years earlier it had been proposed that all manufacturers and importers of farm implements and machinery should amalgamate to form the New Zealand Co-operative Farm Implement Company Ltd. It seems that Arthur Beaven was the instigator of the proposal and that it was embraced by his partner, William Andrews.

Chambers had many valuable franchises that fitted neatly into the A & B marketing strategy, but there were some that opened up new areas of activity. A direct outcome of the takeover was the establishment of the Auckland-based Industrial Services Division. It had been a key division of Chambers, and the board decided it should remain in Auckland because the principal agencies and the staff associated with them were retained from the Chambers operation. Principally involved with the industrial, institutional, Government and municipal markets, this division offers a wide range of products that include valving, involving fluid control especially for steam and compressed air applications, fans and blowers for industrial use and, in particular, boiler control. It also supplies a wide range of pumps and abrasives, including grinding wheels, grains and powders. The influence of A & B on this division has been most pervasive. Many of the lines that were imported by Chambers are now



Gardner Powered Trawler.

Yanmar Marine Diesel.

Engine Reconditioning.

manufactured locally under licence to the overseas principals, notably the full range of Davidson Sirocco industrial fans. One recent contract filled by the division was the manufacture of heaters and fans for the New Plymouth power station, and it now holds a commanding share of the market supplying steamline equipment for heating purposes and heat transfer, as well as fans for industrial applications.

However, although the new Industrial Services Division functioned well from the outset, the same could not be said of the Wellington-based Automotive Division. It soon found itself in serious difficulties, and the management was in a dilemma.

Basically, the company had to decide whether it should restructure the division or cut its losses and close it down. If the latter course was taken it would have a profound effect on the company, for the branches relied very heavily on the sale of automotive parts and accessories for turnover. Traditionally, Chambers had been a wholesaler for the major motor vehicle manufacturers in addition to buying substantial quantities of parts from independent suppliers. The decision taken was to drop the wholesaling of parts supplied by vehicle manufacturers. That eventually released substantial funds for reinvestment in other stock, but it had the effect of cutting the Automotive Division's turnover by half. In a way the experience with the Automotive Division was symptomatic of the experience of the whole group following the takeover. A & B's turnover rose from just under $4 million in 1965 to nearly $10 million in 1967. Then, as a result of rationalisation and the termination of some agencies, it dropped back to about $8.5 million in 1968. But, despite the fluctuating fortunes and the problems in the automotive parts business, on the credit side A & B was at last a truly national company with substantial manufacturing resources, and a superb marketing organisation, backed up by parts and servicing facilities throughout the country.

Unfortunately the merging of companies of a size and scale of A & B and Chambers sometimes causes serious problems with staff. Some very good men were lost because the company was unable to offer them positions with the status they expected. On the other hand, A & B obtained a great deal of expertise, which subsequently proved to be of real value.

After so many years' association with the harvesting of the land, A & B found itself involved in harvesting of a different kind. Chambers had marketed Gardner diesel marine engines in New Zealand's major ports for many years. This was a prestige account that A & B inherited, and naturally the company wished to support it to the utmost. A large proportion of the fishing fleets used Gardner engines, but A & B soon found that the service and parts back-up was totally inadequate. The position was not too bad in the North Island where, generally, the fishing vessels were larger, but in the South Island the boats were smaller, and more often Gardner powered. To overcome the problem in the South Island, and to service what Gardner-powered boats there were based about the lower half of the North Island, the company bought the Nelson-based company of Marine and General Engineering Ltd early in 1969. Nelson was an ideal headquarters for this venture. It had a sizeable fishing fleet of its own, and was handily placed for the fishermen of the West Coast as well as the southern part of the North Island. The success of the Nelson operation encouraged the company to extend its marine activities to Bluff, where there was a large concentration of Gardner marine engines in the fishing fleet. Although the Nelson and Bluff marine service depots are primarily concerned with the sales and servicing of Gardner engines, and both have been extended to cope with the demand, the Nelson depot has a well-equipped machine shop in which associated fishing equipment, such as hydraulic winches, net haulers and steering boxes, is manufactured.

New Zealand's fishing industry is developing, and larger vessels are beginning to appear. They will demand more power than can be supplied by the existing Gardner family, but A & B will be able to meet the demand with the Yanmar diesel engine range, for its Marine and General Engineering Division handles this Japanese account.

But the problem of the Automotive Division was ever present, and it became apparent that companies with more aggressive policies had seriously eroded the Chambers share of the market, and this was likely to continue. One such company was the Dunedin-based General Accessory Company Ltd. It had a relatively short history, having been established in 1953 as a single wholesale warehouse to supply the Otago motor trade with a restricted range of replacement parts and accessories. It had been built up to a very formidable marketing organisation by Mr W. L. Cameron and other members of his family, and had branches or wholly-owned subsidiaries in most of the major centres. Its distribution chain became increasingly attractive to many overseas and local manufacturers as an outlet for their products. As a consequence, G.A.C. gained many agencies through which it was able to give complete services to the transport industry. This association provided opportunities for G.A.C. to diversify its merchandising operations into the earth-moving, agricultural and forestry industries in which A & B had a considerable stake also.

On this broad base G.A.C. was able to progress, and it turned the economic climate to its advantage when, with Government approval, it was able to set up specialised factories to re-manufacture used automotive components. In addition, it used those factories to process a wide range of friction materials for automotive and industrial use. Then, to complement these activities, G.A.C. bought, Metalspray Dunedin Ltd, a tool, die-making and automotive parts rebuilding business.

Finally, G.A.C. acquired engine reconditioning businesses strategically situated close to its own warehouses in main cities.

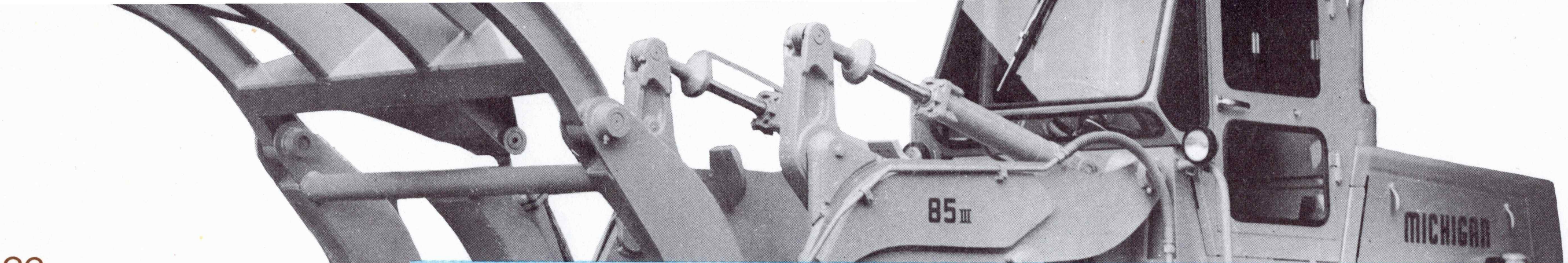
This spectacular growth had caused some financial indigestion towards the end of the decade and, by coincidence Mr B. F. Anderson, a Christchurch chartered accountant was invited by G.A.C. to advise on the financial restructuring of the company. A & B's auditor and financial consultant for many years, Mr Anderson suggested to G.A.C. that there might be sound reasons for that company and A & B to hold discussions which might lead to the solution of their individual problems.

The upshot of those discussions was that A & B acquired G.A.C. Whereas John Chambers & Son had been rich in assets acquired during more than a century of trading, G.A.C. had more modest facilities, although the company was rich in expertise and trained staff. It had also ably demonstrated its vigour in trading. A & B gained more than 600 employees, nine engine servicing plants, twelve fully stocked warehouses, and a tool and die-making company. Moreover G.A.C. was represented from Auckland to Invercargill.

As had been the case after the Chambers takeover, integration of G.A.C. into the A & B group called for some reorganisation and rationalisation. Firstly the Engine Services Division was formed. It was to become one of New Zealand's largest and best equipped engine reconditioning organisations. For some time the Wellington-based Automotive Division and Dunedin-based G.A.C. acted independently, but this situation created more problems than were desirable, and eventually the decision to merge the two operations into a single marketing division with headquarters in Christchurch was taken. Mr W. L. Cameron, whose inspired leadership had made G.A.C., had joined the board of A & B, but he continued to live in Dunedin. Mr Bruce Deighton was appointed manager of the new division, and his deputy was Mr Tom Wallace, a former Chambers and A & B employee.

This decision to reform the division, and base it in Christchurch, brought far more success than was anticipated. It now accounts for about 28 per cent of the company's total turnover, and is among the three largest automotive parts distributors in the country.

As had been the case with the Chambers takeover and subsequent rationalisation of marketing activities, A & B once again encountered problems with staff placement. Some good people were lost to the company, but today more than 80 per cent of the Automotive Division's managerial and marketing organisation is in fact G.A.C. trained.



Clark Ranger Log Skidder working at Balmoral Forest Canterbury.

55 Clark Log Loader working in Canterbury Forest.

175 Michigan Loader working in Christchurch shingle pit.

In the meantime the activities of the Manufacturing Division were being extended. Middleton had been doubled in size, and many sophisticated machines had been bought and installed there, and also at the Moorhouse Avenue works.

Started some ten years previously, the forklift truck manufacturing programme was flourishing, and so it was decided to manufacture towing tractors, rubber-tyred loaders and log skidders. The towing tractors were designed by A & B, but the rest of the new range was of Clark design, and involved use of Clark components. The Mount Wellington works had been enlarged also, and was producing equipment originally handled by John Chambers, particularly the range of industrial fans developed by the Northern Ireland firm of Davidson and Co of Belfast.

The takeover and the expansion of the manufacturing programme resulted in most spectacular financial growth. Early in 1969 the turnover was $9.5 million. In 1971 it had soared to more than $20 million.

An interesting side effect that resulted from the merging of the three companies involved the marketing of industrial and automotive bearings. They stocked a wide range which was often bought from the same source, Ransome, Hoffman and Pollard Ltd—R.H.P. A & B also bought from Asahi of Japan, while Chambers and G.A.C. were also buyers from Continental suppliers. It was evident that New Zealand was grossly overstocked with bearings, as almost every engineering supplies merchant and machinery distributor handled them. There was an urgent need to rationalise bearing stocks, for there were substantial funds tied up in them, and turnover rates were pathetically low.

Auckland-based Motor Specialties was alive to the position. Moreover, the British bearing industry had been restructured under the direction of the Board of Trade, for bearings were regarded as an essential commodity.

Negotiations were begun with Motor Specialties with the idea of forming a subsidiary company to handle bulk stocks, and attend to the indent market, while the marketing organisations of both groups would be individually responsible for marketing and sales. As a result, the Bearing Service Company was formed to handle the bearings of R.H.P. Ltd and the American and British Timken companies exclusively.

From the time the Allis Chalmers account was relinquished, the Agricultural Division suffered frustrations because of lack of supplies. The company had the Fiat agricultural franchise, but import licences were difficult to obtain, because the company has lost its historical entitlement. Also it was not easy to sell tractors without the complementary range of harvesting and tillage equipment. A & B had maintained its association with the Melbourne-based implement manufacturer, Connor Shea, and had continued to part manufacture some implements and specialised harvesters.

However, the tide turned in 1965 when the Government withdrew nominated agricultural tractors from the licensing schedules. That gave the company access to probably the finest and certainly the widest range of agricultural tractors in the world. Then, in 1970, A & B was approached by New Holland, the Sperry Rand subsidiary, to distribute its harvesting equipment together with the Belgian-made Clayson combine line.

There were difficulties in financing the greatly expanded business because of the takeovers, but the company accepted the franchise and the responsibilities that went with it.

Agricultural equipment needs exceptional back-up for spare parts, particularly during the seasonal activities of the farming community. However, the company was able to buy a number of buildings owned or leased by the previous New Holland franchise-holder, who had relinquished the business because of lack of finance. So A & B had some reasonably adequate facilities in the North Island, and its own branch network in the South Island. The Hamilton and Palmerston North branches were of a high standard, and the company was able to overcome its inadequate bulk storage problem in the South Island by buying a Christchurch property in Marshland Road which provided 48,000 sq.ft. In it was established the company's agricultural servicing facilities, major spares depot and bulk storage for agricultural capital plant as well as for the other divisions.

With the Fiat agricultural tractor range freely available, and the acquisition of the New Holland franchise, the Agricultural Division was moving towards top gear again, but before the final gearshift could be made there had to be some dramatic reorganisation within the division. Its headquarters were moved to Marshland Road, and specialised branch operations were either created or taken over at Hamilton, Palmerston North, Nelson, Blenheim, Christchurch and Timaru. Also a number of specialised distributors were appointed. The task was undertaken by the division's manager, Mr R. M. Legat, who is now the deputy managing director and marketing director of A & B. His organisational flair transformed the company from a major South Island supplier of agricultural equipment to a major distributor nationally.

Very much in pace with the reformation of the Agricultural Division was the creation of additional space for manufacturing. A number of new lines had been introduced, particularly transmission equipment, and specialised types of automotive components. They created a demand for a continual supply of high quality castings, and although A & B had its own foundry, the company was also reliant upon almost every foundry in the South Island.

At the end of the 1975 financial year, the chairman of the board, Mr R. H. Clark, was able to report to shareholders that A & B's volume of export business had increased by 22 per cent in the previous twelve months, and this increase had been accomplished without the benefit of transmission product lines because the company had withdrawn from export business as it did not have a reliable source of high quality castings. This was because insufficient investment funds were obtainable to construct a new foundry at Maces Road in the Christchurch suburb of Bromley. This proposed foundry was that of R. Buchanan and Sons Ltd, a wholly-owned subsidiary of A & B.

The history of the Buchanan foundry is as long as that of A & B. Robert Buchanan came to Christchurch to join John Anderson in 1870. Canterbury was experiencing an engineering boom in those days. The Lyttelton railway had been opened only three years, and in 1870 Julius Vogel's Public Works Act stimulated expansion, particularly with regard to railways and roads.

In 1878 Buchanan went into business on his own account in leased premises, which he subsequently bought and extended.

Much of his early work comprised structural and ornamental castings, but he soon formed an association with William Andrews and Arthur Beaven, and supplied them with agricultural castings, firstly for horsegears, and subsequently for chaffcutters. Today the firm still supplies spares for the smaller machines.

Soon after the turn of the century, Robert Buchanan was joined by his sons, Stanley and Charles, and the company was incorporated in 1912, a year before its founder died.

Over the years the original premises were rebuilt and extended, but ultimately they became too small, and in 1970 four acres and a half of land was bought in Maces Road. Then, in 1975, A & B, which had bought shares in the firm in 1962 when the founder's grandson, Mr Gordon Buchanan, bought the controlling interest, took over all the shares and made Buchanans a wholly-owned subsidiary. Immediately plans were put in hand to build a new foundry. However, construction had to be postponed because of the lack of funds and, hence, there were no high quality castings and export production of transmission products ceased.

Subsequently an infusion of funds enabled a start to be made on the foundry, and the old St Asaph Street premises were sold.

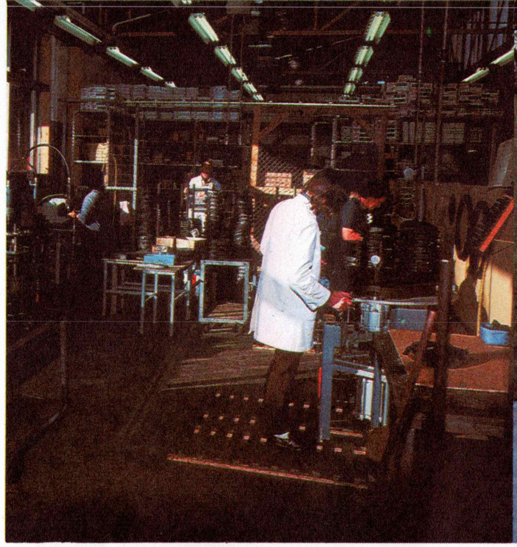
The foundry was commissioned in 1977, and at the annual general meeting that year the chairman, Mr W. B. Barnes, was able to tell shareholders that the group was then assured of a continuing supply of good castings.

While the company was involved in such wide ranging activities, the process of expanding and refining the marketing activities continued, just as it does today.

New agricultural premises were opened in Rotorua, an entirely new branch was established in Masterton, the Ashburton branch was expanded, additional branch facilities were set up in Invercargill, and in Christchurch a small agricultural distributor was taken over to establish a branch for the Agricultural Division.

However, by far the most dramatic move was the establishment of the Wiri complex in South Auckland.

Service Workshop
Wiri South Auckland.



Clutch rebuilding plant
A/P (NZ) LTD Wiri South Auckland.

General view Wiri Complex South Auckland.

Prior to setting up Wiri, A & B had eight distinct operations in metropolitan Auckland, and it was decided by the board that the entire Auckland operation should be rationalised. After the Chambers takeover, A & B built a marketing organisation based on the distribution of products through divisions and the management and discipline of its marketing organisation in areas. These areas had their headquarters in Auckland, Wellington and Christchurch. The Auckland area manager was Mr Legat, and upon his shoulders fell the task of creating what is one of the most attractive and efficient business complexes in New Zealand. Wiri has substantial showrooms, spacious warehouses, area management and marketing facilities, a machine and fabrication shop, a clutch rebuilding plant, a bonding plant for friction materials, a large store for capital plant spares, and a service depot. Built on about six acres of land, Wiri has exceptional facilities for its staff, and the grounds are tastefully landscaped. A & B's fears that the company would lose staff with the transfer of its operations from down-town Auckland to Wiri proved groundless, and, no doubt, the attractiveness of the new work place contributed greatly to that happy situation.

The policy of amalgamating the company's activities was undertaken where possible. Great attention was devoted to after-sales service, bulk stores being set up at Wiri, Wellington, Dunedin and Christchurch, the individual branches drawing their requirements as their inventories demanded. Similarly, a Service Division with headquarters in Christchurch, was created to provide national coverage, and 16 depots were set up and manned by qualified staff adequately equipped to service the diverse range of products the company handles. This range reads like a who's who of the international engineering business.

In 1975 the company was invited to enter into discussions with Don Agencies Ltd, a prominent Christchurch-based firm which represented Don International Ltd, a subsidiary of Cape Industries Ltd. The New Zealand company had a great deal of experience in processing friction materials, and had a plant in Christchurch, which among other activities, produced disc brake pads. At about the same time, the company was negotiating with Automotive Products Ltd, of Leamington Spa, England. This company had formed a New Zealand subsidiary, Automotive Products (N.Z.) Ltd, but had not got it off the ground.

A & B took over Don Agencies Ltd, the minority holding being retained by Cape Industries, the association there being one A & B was pleased to retain because of the expertise Cape could make available. Agreement was also reached with Automotive Products to restructure that company, with A & B holding 75 per cent of the shares.

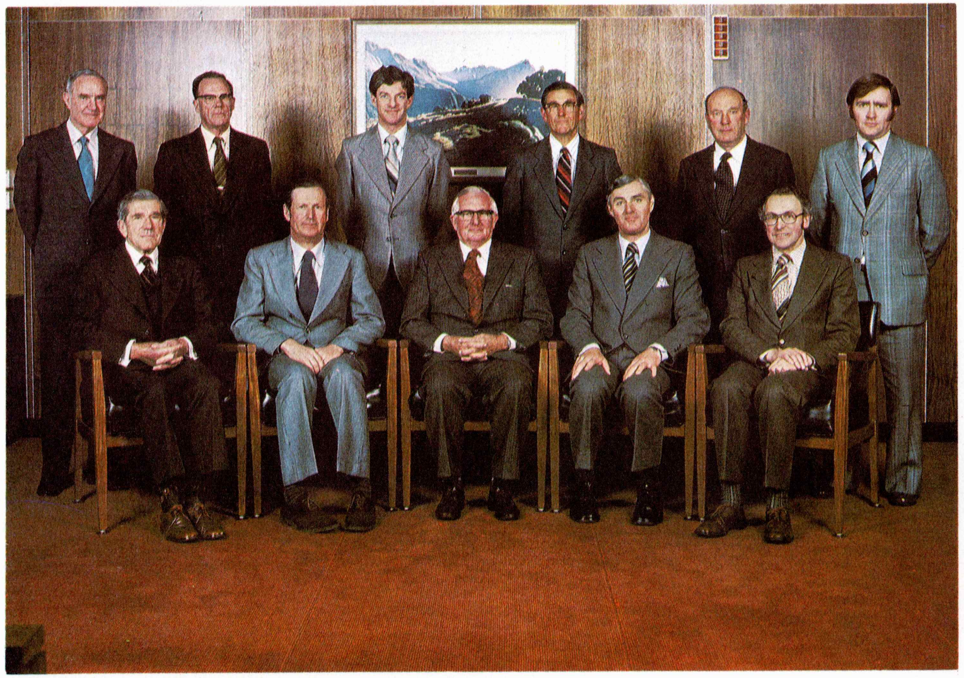
The acquisition of Don Agencies added that company's manufacturing and distributing facilities to the strength of the flourishing Automotive Division, and the arrangement with Automotive Products has given the company access to the products of one of the most respected automotive components manufacturers in the world. Plans are in hand to manufacture previously imported components for the local automotive industry.

Thus, in a series of steps that began in 1965 with the acquisition of John Chambers & Son, A & B has developed a formidable manufacturing and distribution group which will provide the framework for greater expansion into the automotive field with internationally known trade names. In essence, the comparatively recent entry of A & B into the automotive industry mirrors the mode of development of the company over these one hundred years, in creating its Automotive Division, A & B sought to fill a need, and not create one. That is precisely what William Andrews and Arthur Beaven had in mind when they joined forces in 1878. They knew that there was more satisfaction to be found in a life dedicated to service than to the accumulation of worldly goods. The company has developed in harmony with New Zealand's steps towards nationhood. The triumphs and disappointments have been shared by the country and the company, and to some extent the disappointments of the company have been mitigated by the diligence and ingenuity of those who have worked for it. Its strengths and its weaknesses repose in its people. They are the team, and the team is the company.

On hearing the legend that St Denis walked six miles carrying his head in his hand, the Marquis du Deffand, apparently quite unmoved by the parlous conditions of the Saint, was moved to the comment: "The distance does not matter; it is only the first steps that count."

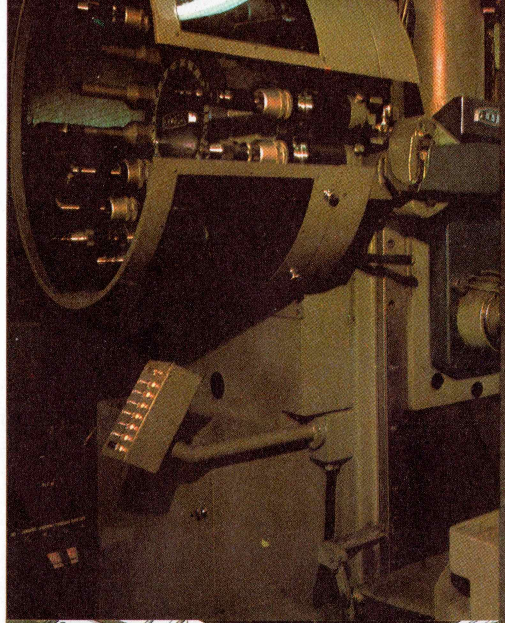
A & B has undertaken the first difficult steps on numerous occasions, and has gone the full distance in the last hundred years. As it moves into its second century, events have already indicated that it has once again entered a path along which the first steps will be difficult. It is safe to assume that the company, drawing upon the example of its founders, and its years of experience, will press on, secure in the knowledge that the distance does not matter.

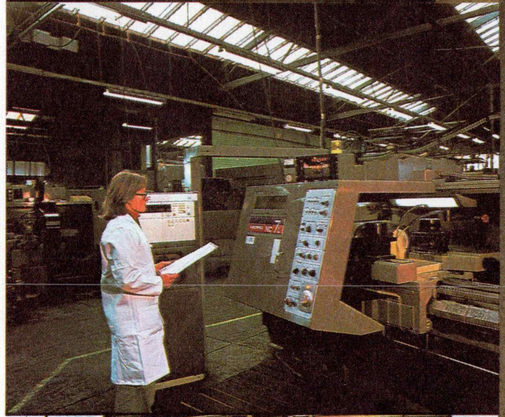
ANDREWS & BEAVEN LTD



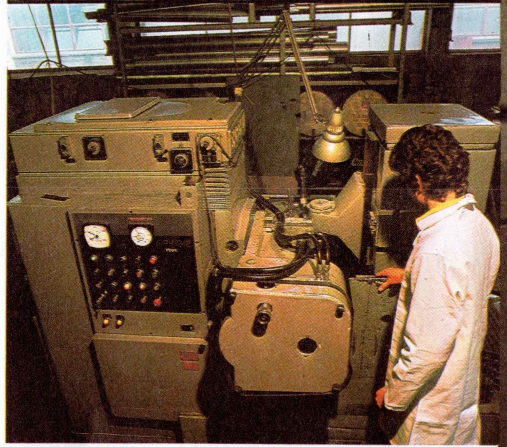
BOARD OF DIRECTORS—Standing left to right: A. W. Mackney, A. H. W. Beaver, B. T. Andrews, W. L. Cameron, R. C. Goldie, B. G. Smith (Secretary) Seated: R. H. Clark, W. B. Beaven (Managing Director) W. B. Barnes (Chairman), R. M. Legat (Deputy Managing Director), A. W. Finch.

OKK MCH400 Computer Numerical Controlled Machining Center with Automatic tool changer & storage for 20 tools. one of only 3 in the Southern Hemisphere .

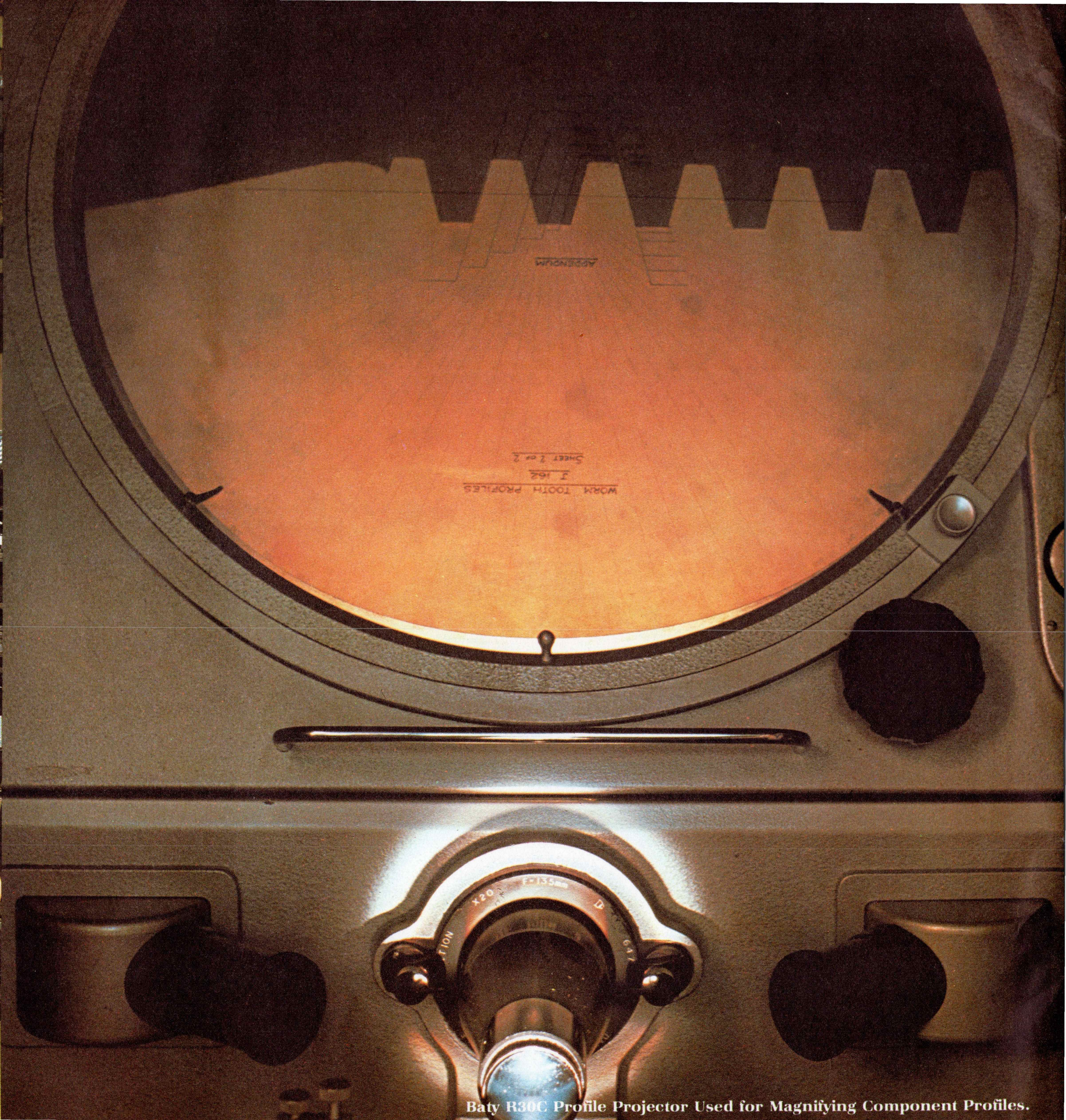




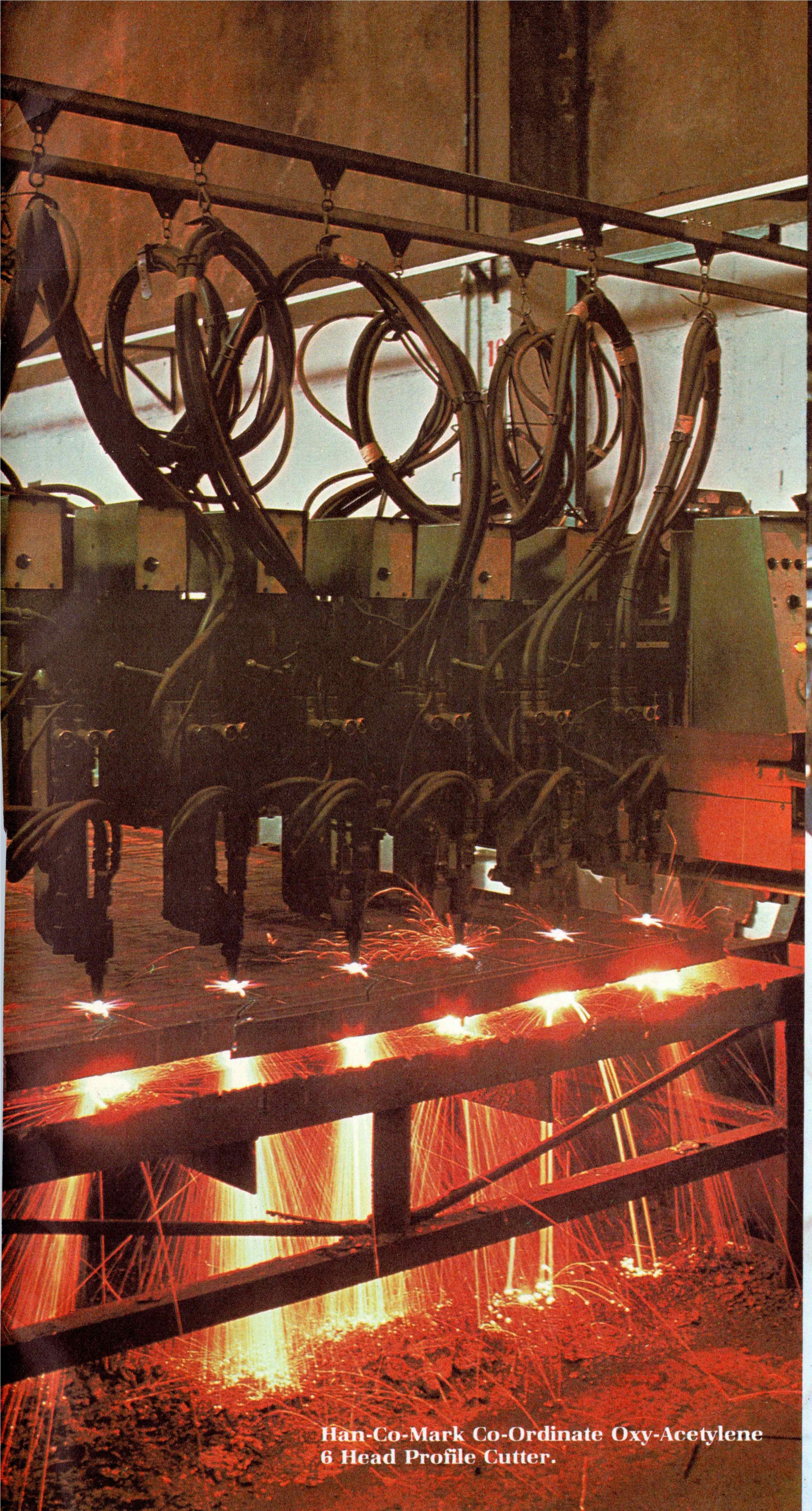
One of our Howa NC7L Numerically Controlled Lathes.



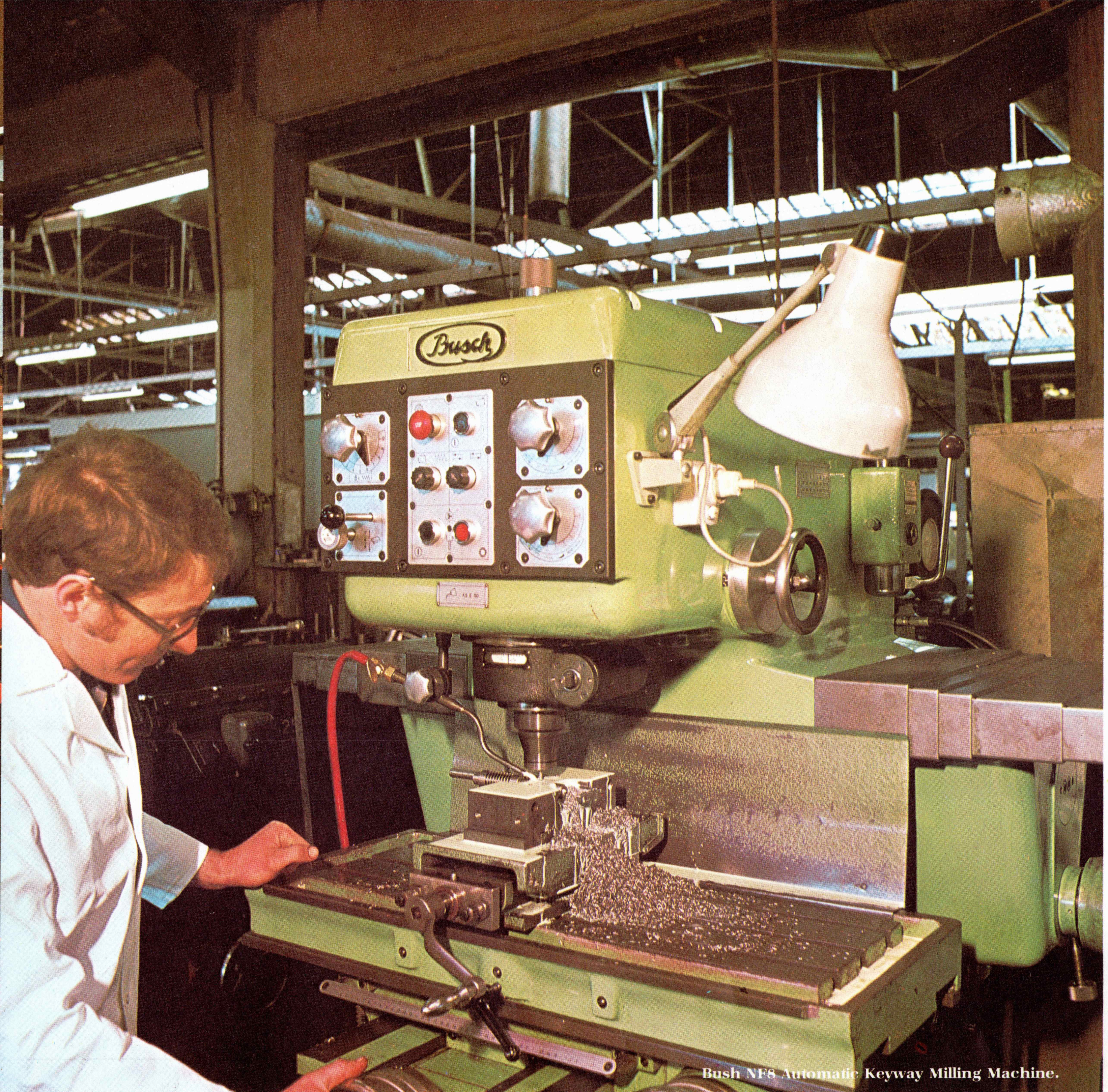
Churchill 1612 Gear Hobber with Tangential Feed Head.



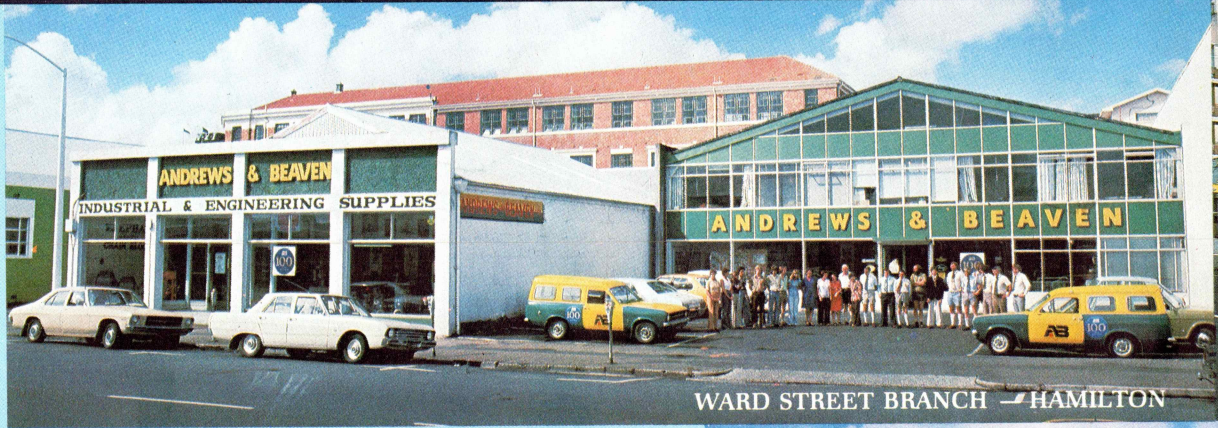
Baty R30C Profile Projector Used for Magnifying Component Profiles.



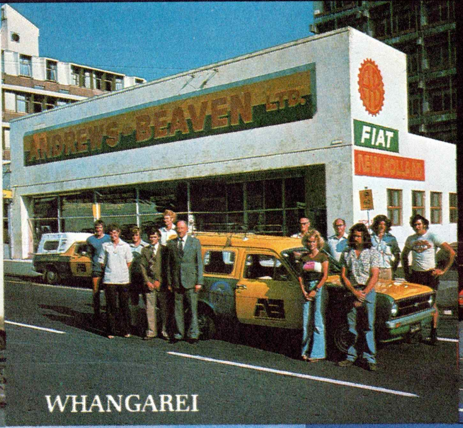
Han-Co-Mark Co-Ordinate Oxy-Acetylene
6 Head Profile Cutter.



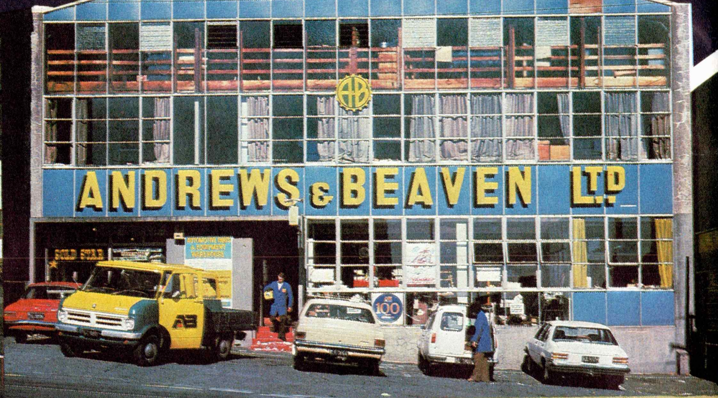
Bush NF8 Automatic Keyway Milling Machine.



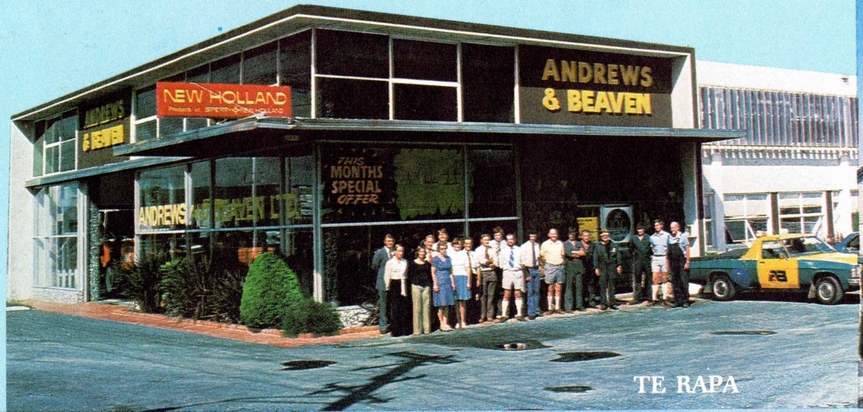
WARD STREET BRANCH — HAMILTON



WHANGAREI



COOK STREET DEPOT



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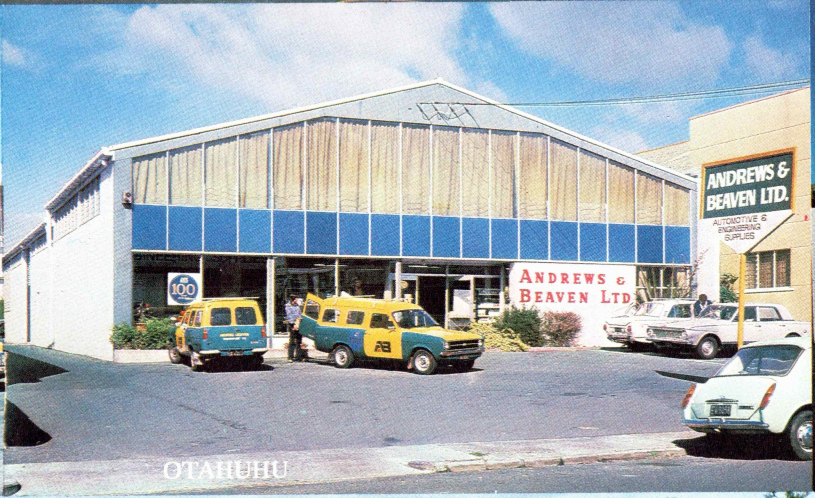

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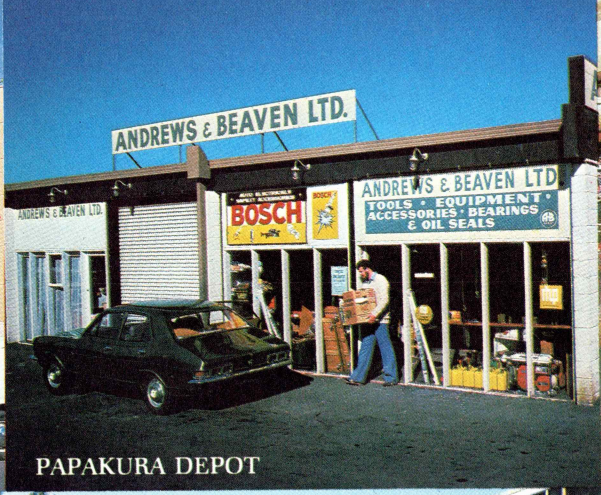
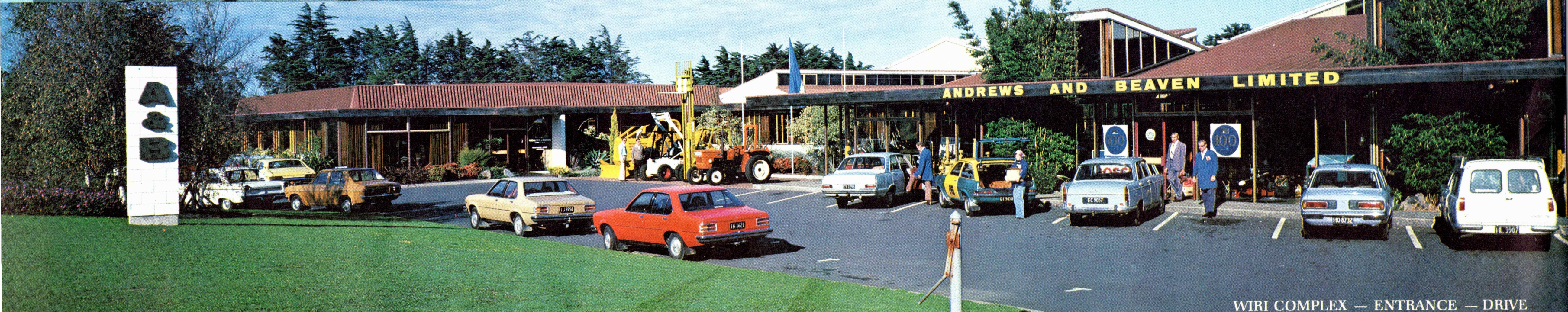


PAPAKURA DEPOT

SHOWROOM

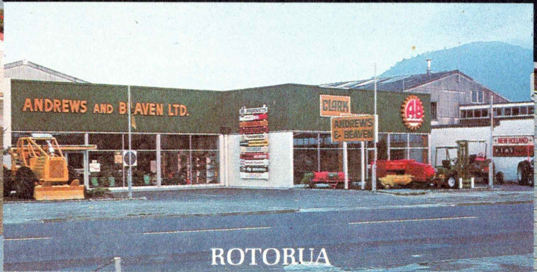


WIRI COMPLEX — ENTRANCE — DRIVE

GISBORNE

HASTINGS

NAPIER



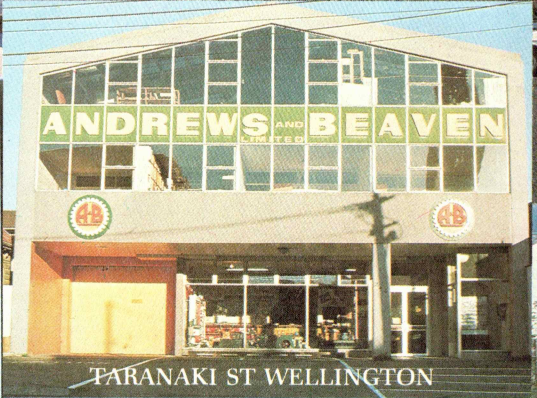
ROTORUA

MASTERTON

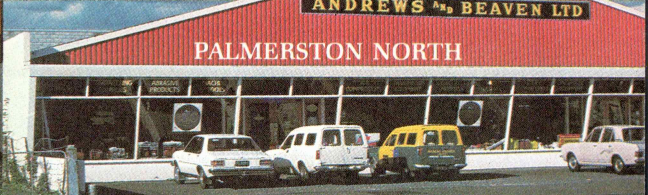
DON AGENCIES

TAURANGA

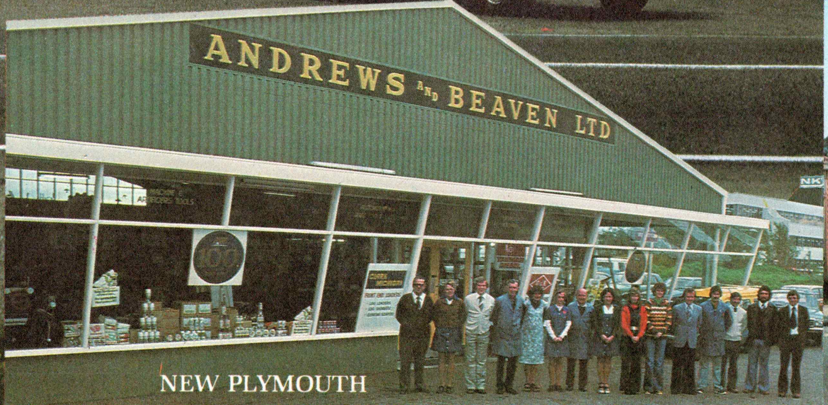
PALMERSTON NORTH



TARANAKI ST WELLINGTON

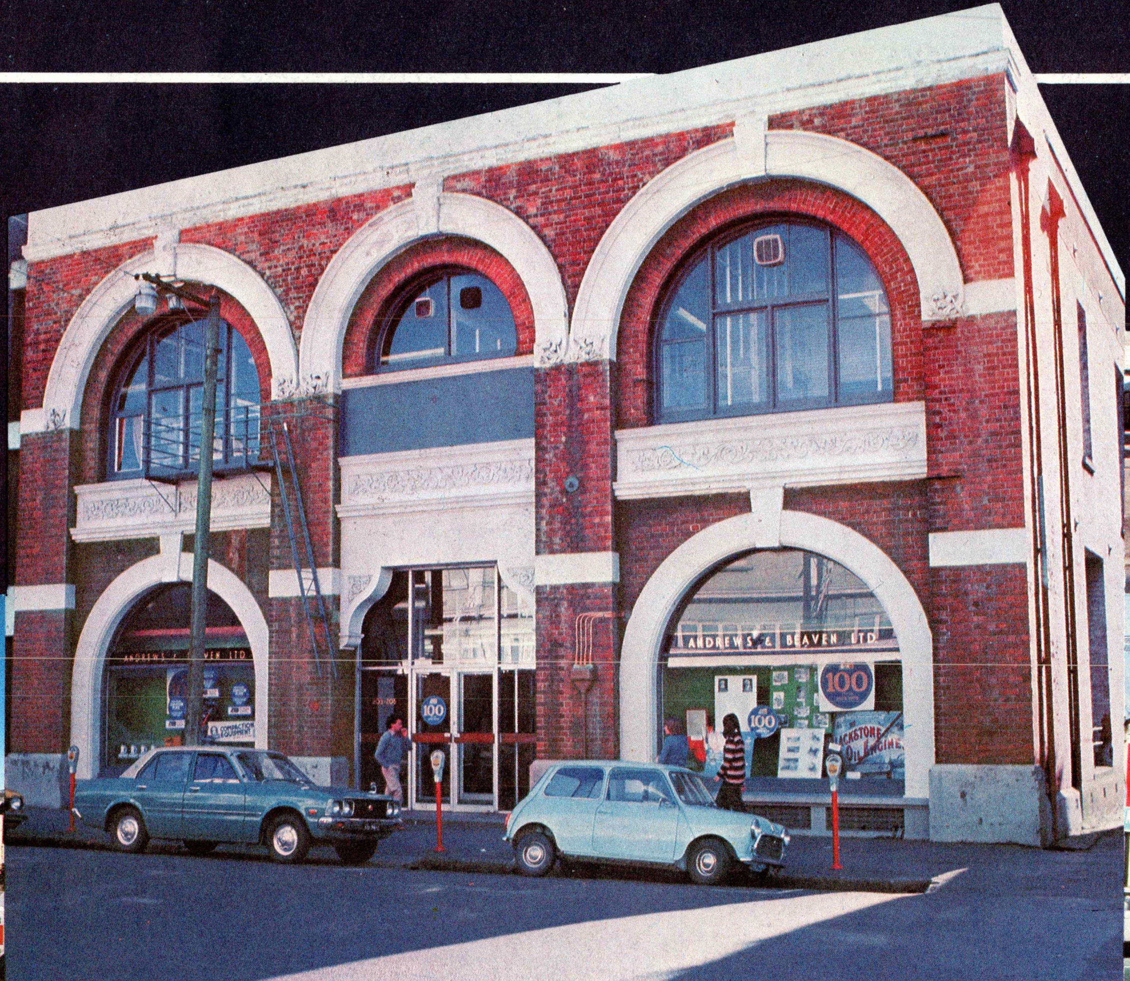


PALMERSTON NORTH

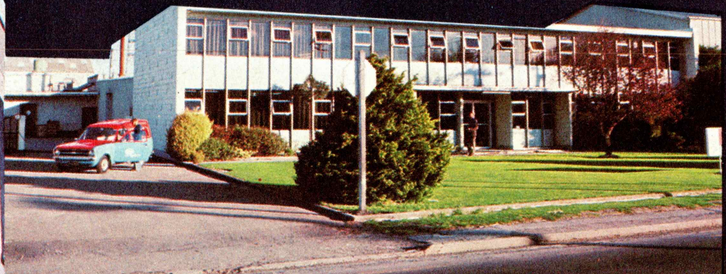


NEW PLYMOUTH

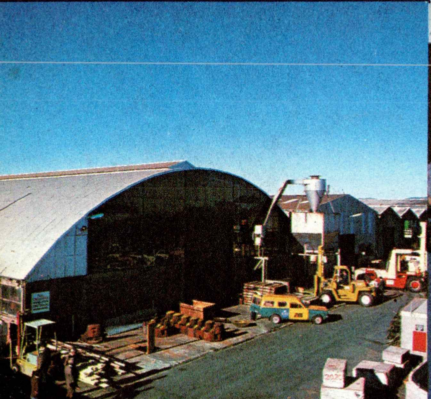
LOWER HUTT



HEAD OFFICE CASHEL STREET CHRISTCHURCH



DON AGENCIES — BLENHEIM ROAD



MIDDLETON WORKS

DON AGENCIES — DURHAM STREET

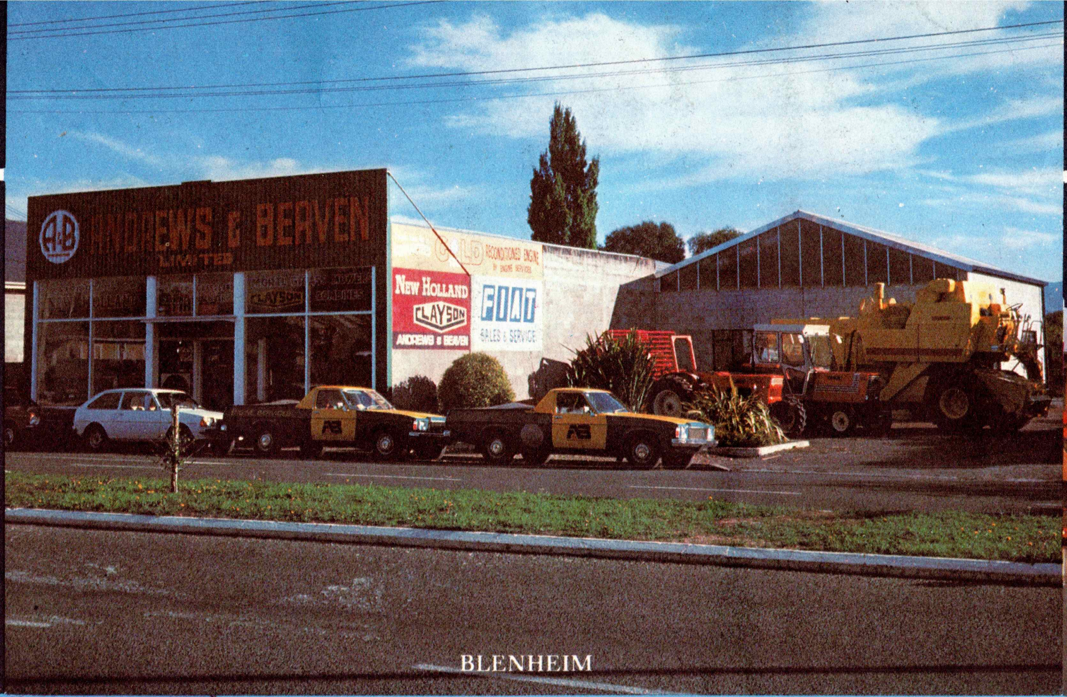
MOORHOUSE AVENUE

R BUCHANAN & SONS LTD FOUNDRY

ANDREWS AND BEAVEN FARM EQUIPMENT

MARSHLANDS ROAD

BATH STREET



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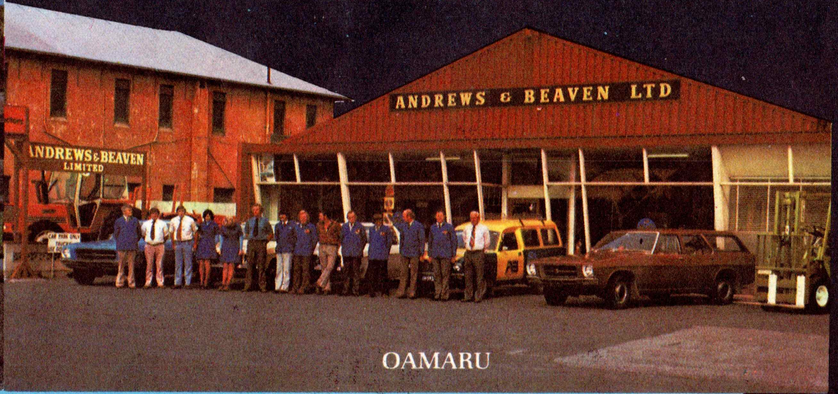
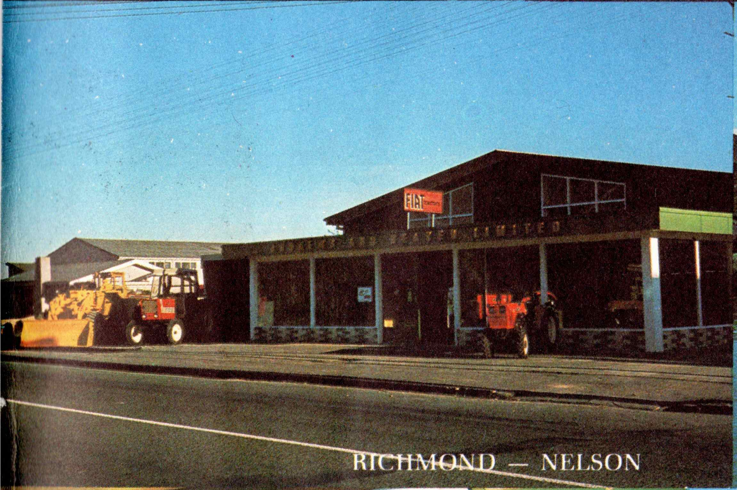
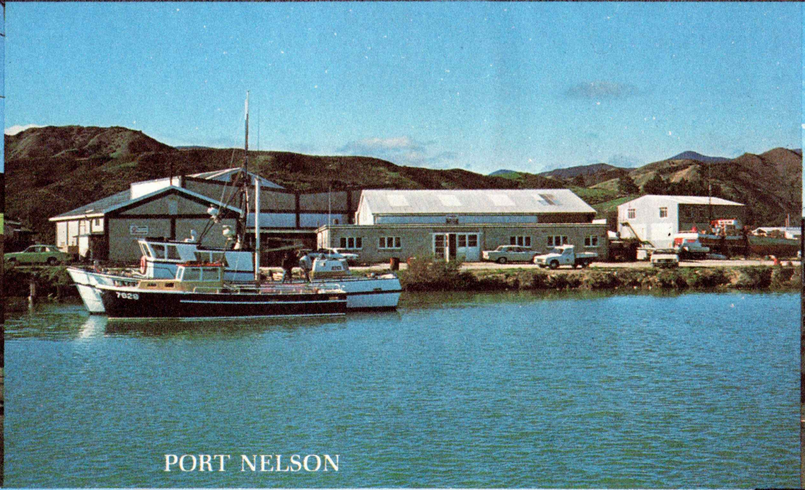


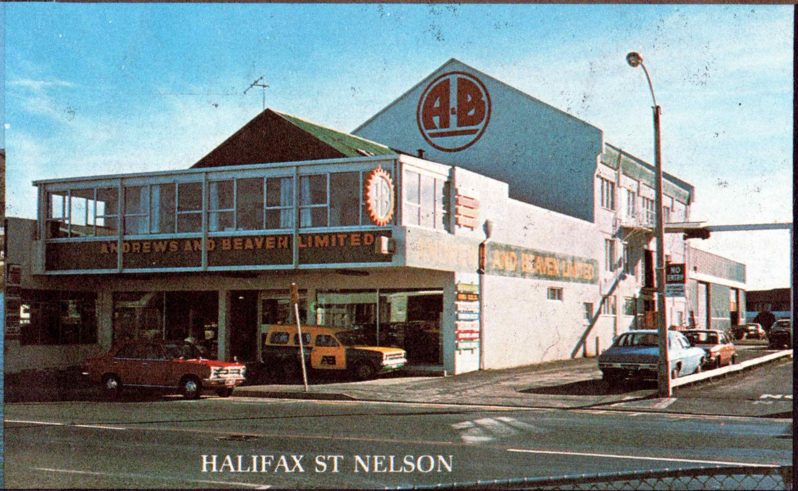
OAMARU



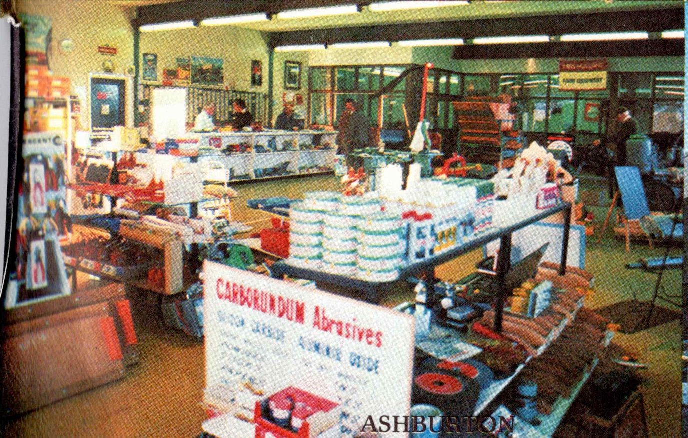
RICHMOND – NELSON



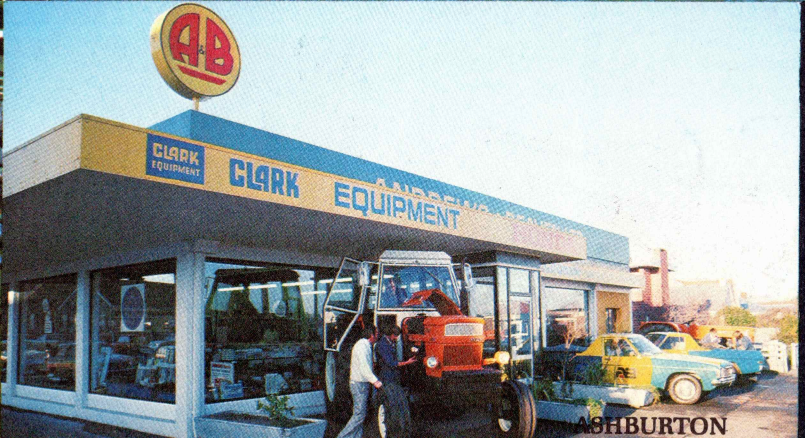
PORT NELSON



HALIFAX ST NELSON



ASHBURTON



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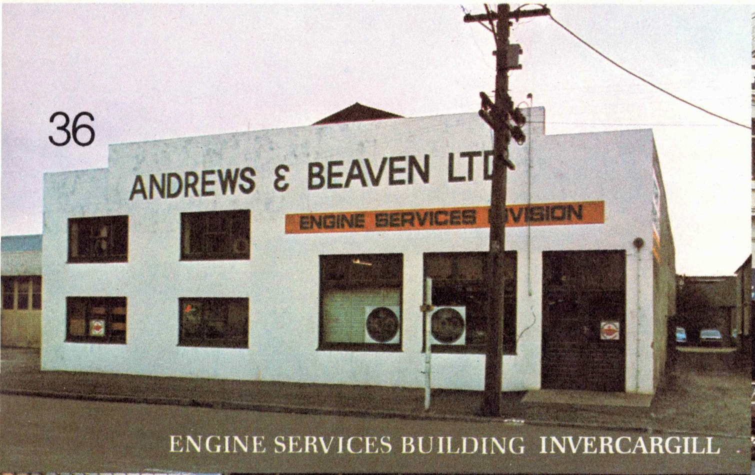
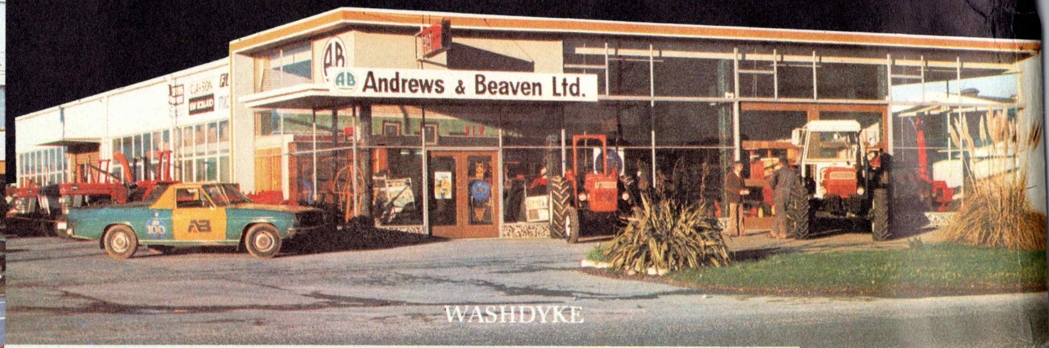
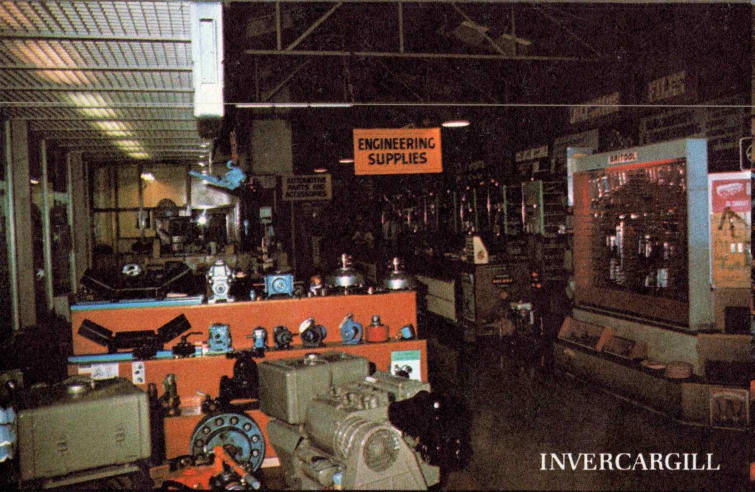


ENGINE SERVICES BUILDING INVERCARGILL

DUNEDIN



WASHDYKE



INVERCARGILL

DUNEDIN

TIMARU

BLUFF

AUTOMOTIVE DIVISION

From an early date 60 years ago when the Company sold Stewart trucks from U.S.A., the company's involvement in the Automotive Industry has increased substantially and now it is recognised as one of New Zealand's largest wholesalers of Automotive parts, Tools and Equipment.

During the growth period of the early 1950's the company serviced the Automotive and Engineering industries with a large range of bearings and oil seals. Following John Chambers take-over, increased involvement with transport and automotive industries followed, until, through the acquisition of General Accessory Company in 1969, the company developed to its present situation, now being recognised as a major supplier of vehicle replacement parts.

With approximately 40,000 stock line items, products range from the smallest bolt and nut through thousands of replacement parts to large items of service equipment, such as Air Compressors, Wheel Aligners and Balancers, Welders, Electronic Tune-up units etc.

A great proportion of stock is obtained from N.Z. manufacturers while the balance is imported from many overseas countries such as Australia, United Kingdom, West Germany, Sweden, Denmark, Italy, India, Japan, Korea, Taiwan, U.S.A., Canada, Brazil, Spain and others to a lesser degree.

Some of our major product lines are Lockheed Bonded Shoes and Disc Pads and Borg & Beck Clutch Assemblies which are manufactured by associate companies. The Division is the leader in the market with these particular products and has substantial capital invested in them. Other major lines are Bosch automotive electrics which is a sole N.Z. Agency, Timken and R.H.P. Bearings, Flaseal Oil Seals, James Neill tools, Aeroquip Hydraulic Hose, Myford Lathes, Danarm Chainsaws and a most comprehensive range of Chemicals and Automotive cosmetics.

Divisional staff today total approximately 380, including 60 Sales Representatives with specialist salesmen marketing such a diverse range of products. As well as the Automotive industry, selling is done in the Engineering, Timber, Contracting and Agricultural industries as well as to Government Departments and local Public Bodies.

The annual sales of the Division contributes in excess of 25% of the Company sales.

AGRICULTURAL DIVISION

After one hundred years of service to farmers, Andrews & Beaven are still one of the largest suppliers of farm machinery in New Zealand. The Agricultural Division today is privi ledged to represent two companies who throughout the world have an enviable reputation for quality and dependability—Fiat Trattori and Sperry New Holland.

Fiat manufacture a comprehensive range of standard and four wheel drive tractors and crawlers ranging from 30 to 150 up. Their latest models fitted with cabs designed by Pininfarina, the famous Italian car stylists, are setting new standards in comfort and safety for the tractor driver.

New Holland, part of the giant Sperry Corporation of America, introduced the first pick-up baler in 1940. Today they lead the world in manufacture of balers and other haymaking and harvesting machinery. A recent introduction by Sperry New Holland is the revolutionary TR70 combine harvester, which utilizes two contra-rotating units to thresh the crop in place of the conventional drum concave system, with a resultant improvement in speed and efficiency of grain harvesting.

Among other franchises held by Andrews & Beaven are Connor-Shea (seed drills), Busatis (mowers) and Gallignani (hay conditioners).

On July 1st 1978, the Irrigation Division was incorporated in the Agricultural Division. The main products of this section are Centre Pivot Irrigation systems and the turbine driven Water Winch which are both manufactured in our own works.

The Agricultural Division markets its tractors and equipment through a national network of sixteen Company Branches and 20 appointed Dealers. Head Office is at Marshlands Road, Christchurch and the distribution centre for the North Island is Te Rapa, Hamilton.

CONSTRUCTION MACHINERY DIVISION.

The Company has grown up alongside New Zealand's contracting industry but it was not until 1964 that the Construction Machinery Division was established. A&B were appointed national distributor of the Clark Equipment Company of the United States in 1958. At the time of establishing the Division, the Michigan brand name associated with rubber tyred tractor shovels and Clark Ranger skidders was widely accepted by contractors and local authorities. Later this was followed by the rubber tyred bulldozers and self loading elevating scrapers. Today a considerable proportion of the Clark equipment offered is manufactured under licence at the Company's Works in Christchurch. In 1976 the American Company awarded Andrews and Beaven the coveted Clark Construction Machinery International Award for outstanding sales achievement.

Like so many of the products handled by the Company, work done by the Construction Machinery Division places a high premium on expertise, and the Division has eight specialists who provide advisory services to clients. Much of the Division's business originates from the New Zealand logging industry, particularly in the Rotorua area but Clark loaders have operated in this country for many years. They range in capacity from a machine with a 1 cubic yard bucket to the Clark 475B working on overburden at an open cast mine with a 12 cubic yard rock bucket. The largest Clark tractor shovel currently operating in the U.S.A. has a 24 cubic yard bucket.

In 1977 we extended the range of Clark Construction Machinery products to include the Lima, Austin Western and Cosmos accounts which include crawler mounted, truck mounted and self propelled cranes of the hydraulic and lattice boom types.

To complement the Clark range the Division also markets the heavy duty range of Orenstein and Koppel hydraulic excavators in rubber tyred and crawler models from just over ½ yard capacity up to 10 cubic yards. The O & K hydraulic excavators have many outstanding features which have been pioneered by the West German firm. The heart of these machines is the unique hydraulic system which incorporates two axial self regulating hydraulic pumps. These units are now being widely accepted in the contracting field, this is being substantiated by repeat orders.

ENGINE SERVICES DIVISION

Engine Services Division was formed after the General Accessory Company takeover in 1969. In the 1960's, there had been a trend in New Zealand towards reconditioning automotive parts on a production line basis, and some of the larger motor accessory companies entered in the field of marketing exchange units, especially engine shortblocks and clutches. G.A.C. were prominent in this activity, and by the acquisition of a chain of previously independently owned engine reconditioning shops throughout New Zealand, were able to manufacture exchange engines and provide a supporting reconditioning service to the motor trade.

By 1970, there were nine reconditioning shops in the Group, five in the North Island and four in the South, but with their merger into the larger company structure some re-organization and rationalization became necessary. Partly because the majority of machines and equipment in the northern shops required early replacement and because of staffing difficulties, it was decided to dispose of the five North Island shops in favour of expansion into the South Island.

This programme began in 1973 with the closure of the first of the northern branch workshops and the eventual disposal of some of the equipment to groups of former staff members who started reconditioning ventures of their own. It was completed in 1975 with the relocation of the best equipment to the South Island and the opening of two additional branches. The Division is now represented at Dunedin, Invercargill, Nelson, Christchurch, Blenheim, and Timaru. There are 70 people working for the Division, many of whom have had very long service with the Company and previous owners of the shops. Engine Services has recorded a steady growth in sales, and in the Centennial year exceeded the turnover and profitability of four years ago during the peak of activity in the North Island when there were nine workshops and 118 employees.

INDUSTRIAL SERVICES DIVISION

The Industrial Services Division has a major involvement with the Mechanical Services Industry and services a wide range of valving, pumps, fans and related equipment. The Division is also very active in supplying a selective range of abrasive products catering to the needs of the engineering industry. As well as the New Zealand manufactured abrasives the major source of more specialised products is from the worldwide plants of Carborundum.

The development and increasing sophistication of New Zealand industry has been matched by the range of products available through the Division. Along with power actuated and self acting temperature and pressure controls, the Division has paid special attention to steam systems. With rising energy costs, efficient usage of steam energy is a major concern to all industries and the Division is proud to be the acknowledged leaders for the field with the well known Spirax Sarco and Sir W. H. Bailey product range.

In conjunction with these specialised products the Division also services industry with a full range of both New Zealand made and imported valves including the well accepted names of Saunders, Crane, Fowler, Methven, and Jamac.

The Division has, for many years, been an active New Zealand manufacturer of industrial valves in sizes up to 4" such as Saunders diaphragm valves ball valves, pilot operated pressure reducing valves and steam traps.

New Zealand manufacture is not restricted to valves and the Davidson Industrial fan manufactured by the Division in Auckland is first choice where arduous duties are involved, such as are met in large boiler applications.

Similarly the first class range of industrial and general purpose pumps made under licence to Indeng, Australia have received wide recognition for their quality and reliability. This locally manufactured range is complemented by units imported from internationally known pump names such as Indeng, Sigmund Pulsometer, Sarlin, and Sykes.

The Divisional strength lies in the experience and knowledgeable staff who, through the Branch network, provide to the industrial customer the back-up and confidence required in today's demanding business conditions.

Evidence of the Division's capability is easily gauged by increasing numbers of requests from industry for steam energy usage surveys.

The special combination of people and products available through the Division will ensure its continued success.

MATERIALS HANDLING DIVISION

The Clarklift machines produced in Christchurch today are manufactured under licence to the Clark Equipment Company of America strictly to their design and materials specification. All components made by Andrews and Beaven are identical to those manufactured in Clark plants in other countries with the machines complying fully with the stringent Clark International standards of safety and stability which exceeds the existing British, New Zealand and American safety requirements.

The Clarklift range currently manufactured includes 19 models ranging from a three thousand pound Petrol or LP gas engine machine through to the giant twenty five thousand kilogram and twenty nine thousand five hundred kilogram container handling machines. Petrol, LP gas powered, diesel and battery electric machines are produced.

The largest Forklift ever manufactured in N.Z. is the Clarklift C500-Y650—recently purchased by the Timaru Harbour Board. It is in this size machine that further potential is seen as more of New Zealand's Ports become caught up in the change to containerisation. The new series large Clarklift machines suppliment the huge Clark Van Carriers that are used to handle containers at the four major container terminals in New Zealand.

In addition to Forklift Trucks the Materials Handling Division represents the Tennat Company of USA who are the world's largest manufacturers of industrial power sweepers, sweeper/scrubbers and floor scarifiers.

"Tennant Sweeps the world," is no small claim but one that can be truly born out when it is realised that companies like General Motors, Ford Motor Company, The Coca Cola Company each have in excess of five hundred Tennant Sweepers in operation throughout their plants around the world.

Clark and Tennant are world leaders in their own fields as also are Cascade Corporation whose Fork Lift Truck attachments have been supplied for many years and Bearcat Tyre Corporation who are the leading Fork Lift Truck Tyre manufacturers in the world.

All these products are world leaders—all products that the Materials Handling Division are able to offer to users throughout New Zealand.

MARINE AND GENERAL ENGINEERING

Marine and General Engineering was originally purchased by A&B to provide a service back up for Gardner engine sales, a service which continues in Nelson and now also in Bluff. Besides Gardner engines, M&G is now involved in the service and installation of the complete range of engines for which the Company holds the franchise, i.e. Gardner, Fiat, MWM, Yanmar and Honda in both marine and industrial applications.

This engine work, which covers sales, warranty work, minor and complete overhauls, is not restricted to the Company's own engine range, it covers anything from 5 HP-1200 HP from small pleasure boats to some of the larger fishing vessels in the country. As well as engine work M&G is involved with most other mechanical parts found on the modern fishing vessel, e.g. pumping equipment, gearboxes, winches, deck gear, auxilliary drives, (both mechanical and hydraulic), steering equipment, propellor shafts, fuel tanks and systems etc. The skills needed for this wide range of work are also being applied outside the marine field, e.g. machining, transmission and hydraulic systems for regualr industrial applications.

In Nelson M&G is also involved on a small scale in the manufacture of hydraulically driven net haulers and adaptor bell housings, and these are sold to customers all over the country.

M&G carries small stocks of mainly marine items not readily available from other sources for general resale especially bronze pipe fittings and some valves.

PROCESS MACHINERY DIVISION UNUSUAL AMALGAMATION BRINGS EXPERTISE TO WIDELY DIVERSE INDUSTRIES

One of the traditional lines of Andrews and Beaven, established very soon after William Andrews and Arthur Beaven formed their partnership in 1878, has been the design, erection and commissioning of complete seed-dressing and stock-food plants. Most of the seed cleaning and dressing plants used in New Zealand have been born on the drawing boards of what was known as the Seed and Provender Division.

Today, Andrews and Beaven remains in the seed-cleaning and dressing business, but the division that handles this activity is now known as the Process Machinery Division.

The Process Machinery Division is, an amalgamation of the Seed and Provender and Crushing and Screening divisions. The latter was originally established to give a service to the quarrying industry but it subsequently diversified into certain aspects of the sawmilling industry.

The Seed and Provender Division blossomed with the aid of the expertise provided by Mr Sidney Andrews, a son of William Andrews, and the work was carried on by Mr K. A. W. Doell, who became recognised as one of New Zealand's experts on the subject of seed dressing.

Although seeds and stones are poles apart, there was logic behind the rationalisation, for the principles involved in seed cleaning and dressing and in crushing and screening of aggregate are in reality not dissimilar.

The Process Machinery Division offers a high degree of expertise in the design and selection of machinery for diverse and specific industries including quarrying, wood processing and seed dressing. The division is a fine example of the diversification which has taken place within the framework of the company.

There is immense variety in the work of the division and much of it demands original designing, for the range of materials which industry wishes to process continues to grow. Already in a highly diversified field, the division looks toward even further diversification with the development of new products and a continuing extension of skills to fit the new techniques that are emerging in the modern processing field.

POWER AND TRANSMISSION DIVISIONS

Power and Transmission Division is the term we now use for the Industrial Power Division and the Transmission Division.

The Transmission Division was formed in 1962 to service the ever growing demands for specialist service of power transmission components such as chain, sprockets, Vee drives, gearboxes, etc.

Industrial Power Division was established to market many of the products acquired with the John Chambers takeover which was effected in 1965. Other products have since been added to the portfolio both from overseas suppliers and from our own manufacture.

Tracing the history of these Divisions highlights the growth and developing strengths of Andrews and Beaven Limited.

In 1958 we pioneered the New Zealand manufacture of one piece bearing housings, shortly following this by the introduction of New Zealand made worm reduction gearboxes.

Today we are a major supplier to the New Zealand market with this product and produce the largest unit available from New Zealand manufacture.

In 1972 after many years of association with standby and base load generator equipment, the first Andrews and Beaven manufactured Powermaster generator sets were released resulting in instant and phenominal success

Development of the Powermaster generator sets was a result of our continued involvement with diesel engines and electrical units such as bare alternators and electric motors. This lead to a natural progression to the manufacture of generator sets for base load and mains failure applications.

Diesel engines or internal combustion engines have an early place in Andrews and Beaven history dating back to 1903 with the introduction of the Blackstone oil engines.

Today such names as Gardner, Yanmar, Fiat and MWM make an important contribution to our Company's activities.

1976 brought the acquisition of the David Brown Franchise for New Zealand resulting in Andrews and Beaven taking over the marketing of products for David Brown Gear Industries Limited, Australia and England plus the Falk Corporation of America. This included such products as Helical and worm gear units plus a comprehensive range of flexible couplings to suit unlimited power transmission applications.

During this period many notable firsts were recorded in the Company's activities such as:—

Manufacture of Opperman geared motor units.

The first Fiat marine engine supplied to commercial application and the commencement of engine marinizing programmes.

Power and Transmission Division now offer a comprehensive range of products servicing a vast spectrum of New Zealand industry.

Product range spans from small vee belts sold to simple applications like domestic washing machines through to large Helical multiple reduction gear units up to 5500 Hp for supply to heavy industries such as steel plants or pulp and paper mill requirements.

Petrol engines for residential lawn mowers or other applications through to 500Hp diesel engines as main power supply for large generator sets for commercial fishing vessels.

Many other associated products are involved to make up the conglomerate of products used to give a complete Power and Transmission service to our many valued clients.

SERVICE DIVISION

Service Division developed from the need to provide a back up service to the sale of Allis Chalmers tractors lighting plants, irrigation and later for equipment and marine engines and harvesters. In the 1950's, large workshops were in operation at Christchurch, Timaru and Invercargill. Later, as the Company expanded, more workshops were established, and today there are 19 service depots stretching from Whangarei to Invercargill.

With a staff of 120, the Division prepares new machinery for sale, attends to warranty repairs and administration, and provides a full after sales repair and maintenance service on equipment marketed by the Company. A complete service is also offered to users of competitive makes of industrial, contracting, and agricultural machinery. Field service is available from all depots and 55 vehicles are allocated to that type of work. Specialist product training schools for servicement are conducted each year with the aid of overseas trainers provided by the Company's principals.

In its beginnings, the Service organization was essentially a local affair with each branch looking after its own service. Continuing growth at branches and the increasing warranty and technical services loading at Christchurch set a tendency for sales divisions to appoint their own product service specialists. These people performed an important function in setting up the systems needed to distribute technical information to branches and maintain service communications with overseas principals. In 1973 a Divisional Head Office was established and speicalist technical staff were absorbed back into the Service organization and additional staff were appointed. Its wide contact with the manufacturing, sales and overseas interests of the Company has given the Service Division a broad base on which to train and prepare staff for promotion into key roles in other parts of the Group, and to maintain a leading position within the mechanical servicing industry as a whole.

Major world wide suppliers

Agricultural Division

Fiat	Italy
Sperry-New Holland	U.S.A. Australia Belgium

Pumping and Irrigation Equipment

Simpson Pope	Australia
Butler Manufacturing Company	U.S.A.
Garvens Werke	Austria

Process Machinery Division

Rexnord Industries	U.K. & U.S.A.
Christy and Norris	U.K.
Associated Perforators and Weavers	U.K.
Brown Lenox	U.K.
Bentall	U.K.
Triple-S-Dynamics	U.S.A.

Construction Equipment Division

Clark	U.S.A.
O & K	West Germany

Materials Handling Equipment

Clark	U.S.A. & Australia
Tennant	U.S.A.
Bearcat	U.S.A. & Australia
Cascade	U.S.A. & Australia

Automotive and Merchandising

Quinton Hazel	England
Automotive Products (Borg & Beck & Lockheed)	England
Repco	Australia
Woodhead Manufacturing	England
Kayaba Industries	Japan
Timken	U.S.A.

Steyr	Austria
R.H.P.	England
Robert Bosch	Germany
McKay Export	Australia
Flavell	Australia
Aeroquip	U.K.
Myford	U.K.
James Neill	U.K.

Industrial Supplies Division

Spirax Sarco	U.K.
Saunders Valves	U.K.
Sir W. Bailey Products	U.K.
Simons Saws	U.S.A.
Carborundum	U.K.
Drayton	U.K.
Bells	U.K.
Tangye	U.K.
Cross Brothers	U.K.
Ormond Ashton	U.K.
Davidson Sirocco	Australia & U.K.
I.E.L.	Australia
Sykes Pumps	U.K.
Sigmund Pulsometer	U.K.
OY E Sarlin	Finland

Industrial Power

Honda	Japan
Yanmar	Japan
Gardner	U.K.
Markon	U.K.
M.W.M.	Spain
Fiat	Italy
Simpson Pope	Australia
Arkon	U.K.

Transmission

David Brown	U.K.
Falk	U.S.A.
JWIS	Germany
Goodyear	U.K.
Fluidrive	U.K.
Hitachi	Japan
R.H.P.	U.K.
FYH	Japan

1 United Kingdom
2 Belgium
3 West Germany
4 Finland
5 Austria
6 Italy
7 Spain
8 United States of America
9 Japan
10 Australia